Emerson®

SERVICE MANUAL

Sec. 1: Main Section
- Specifications
- Preparation for Servicing
- Adjustment Procedures
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- CBA' s

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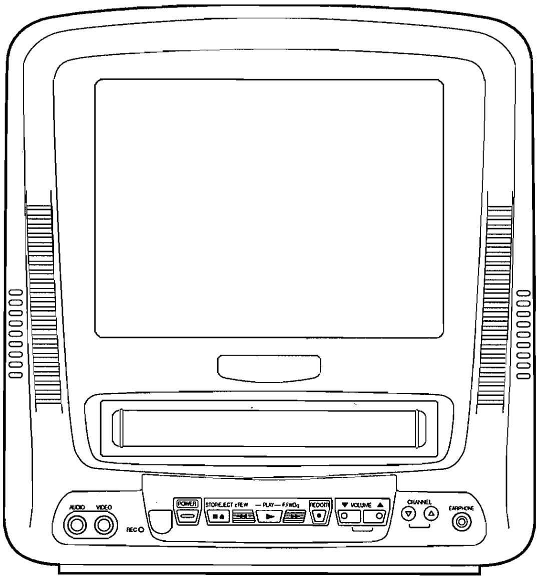
- Exploded Views
- Parts List

9" COLOR TV/VCR COMBINATION

EWC0901



船井サービス株式会社
マニュアル課

MAR. -8. 2001

IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

MAIN SECTION

9" COLOR TV/VCR COMBINATION

EWC0901

Sec. 1: Main Section

- ● **Specifications**
- ● **Preparation for Servicing**
- ● **Adjustment Procedures**
- ● **Schematic Diagrams**
- ● **CBA' s**

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SPECIFICATIONS

✶ Mode ---------SP mode unless otherwise specified

✶ Test input terminal

<Except Tuner> -------------Video input (1Vp-p)
Audio input (-10dB)

<Tuner> ---------------------Ant. input (80dBμV) Video: 87.5%
Audio: 25kHz dev (1kHz Sin)

<DEFLECTION>

Description	Condition	Unit	Nominal	Limit
1. Over Scan	—	%	90	±5
2. Linearity	Horizontal	%	—	12
	Vertical	%	—	10
3. High Voltage	—	kV	18	—

<VIDEO & CHROMA>

Description	Condition	Unit	Nominal	Limit
1. Misconvergence	Center	m/m	—	0.3
	Corner	m/m	—	1.5
	Side	m/m	—	1.2
2. Tint Control Range	—	deg	±30	—
3. Contrast Control Range	—	dB	6	—
4. Brightness	APL 100%	ft-L	30	—
5. Color Temperature	—	K	9200	—

<VCR>

Description	Condition	Unit	Nominal	Limit
1. Horizontal Resolution	(R/P)	Line	230	200
2. Jitter (Low)	(R/P)	μS	0.05	0.2
3. S/N Chroma AM (SP)	(R/P)	dB	38	33
PM (SP)	(R/P)	dB	36	33
4. Wow & Flutter (RMS)	(R/P)	%	0.25	0.5

<TUNER>

Description	Condition	Unit	Nominal	Limit
1. Video S/N	—	dB	45	40
2. Audio S/N (W/LPF)	—	dB	43	40

<AUDIO>

All items are measured across 8Ω resistor at speaker output terminal.

Description	Condition	Unit	Nominal	Limit
1. Audio Output Power (Max.)	(R/P)	W	0.8	0.6
2. Audio S/N (W/LPF)	(R/P)	dB	40	36
3. Audio Distortion (W/LPF)	(R/P)	%	3.0	5.0
4. Audio Freq. Response (-10dB Ref. 1KHz)	200Hz (R/P) 8kHz (R/P)	dB dB	-2.0 0	-2.0 ± 5.0 0 ± 6.0

Note: Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

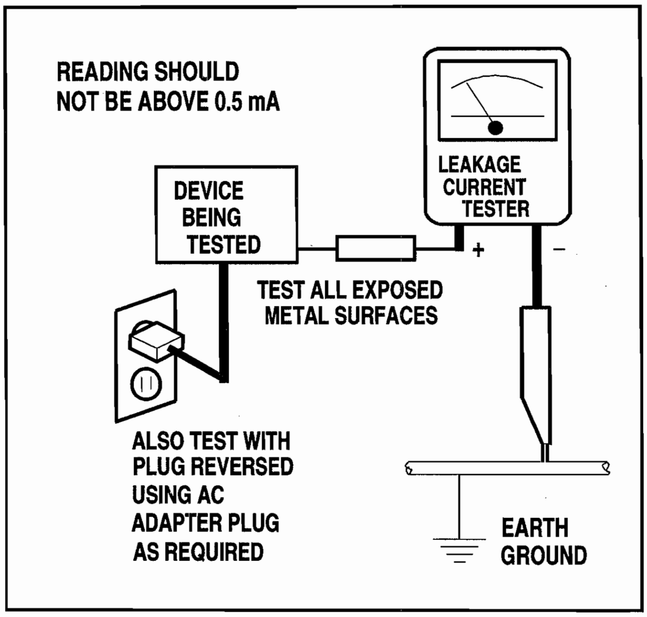
1. **Before returning an instrument to the customer,** always make a safety check of the entire instrument, including, but not limited to, the following items:

a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

c. Antenna Cold Check - With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

d. Leakage Current Hot Check - With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.


READING SHOULD NOT BE ABOVE 0.5 mA
DEVICE BEING TESTED
LEAKAGE CURRENT TESTER
+
-
TEST ALL EXPOSED METAL SURFACES
ALSO TEST WITH PLUG REVERSED USING AC ADAPTER PLUG AS REQUIRED
EARTH GROUND

ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

e. X-Radiation and High Voltage Limits - Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original. Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servicing is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also may be called "horizontal disable" or "hold down.") Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.
3. **Design Alteration Warning -** Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.
4. **Picture Tube Implosion Protection Warning** - The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such "permanently attached" yokes from the picture tube.
5. **Hot Chassis Warning -**

a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and may be safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.

b. Some TV receiver chassis normally have 85V AC(RMS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.

c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not is- olated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.

6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.
7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.
8. **Product Safety Notice -** Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a (⚠) on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continu- ously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the (⚠) symbol are critical for safety.

Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.

Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:

1) Wires covered with PVC tubing

2) Double insulated wires

3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:

1) Insulation Tape

2) PVC tubing

3) Spacers

4) Insulators for transistors.

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

G. Check that replaced wires do not contact sharp edged or pointed parts.

H. When a power cord has been replaced, check that 5~6 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Use care that foreign objects (screws, solder droplets. etc.) do not remain inside the set.

K. Crimp type wire connector

When replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, in order to prevent shock hazards, perform carefully and precisely the following steps.

Replacement procedure

1) Remove the old connector by cutting the wires at a point close to the connector.

Important: Do not re-use a connector (discard it).

2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the VCR connectors, first, disconnect the AC plug from AC supply socket.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

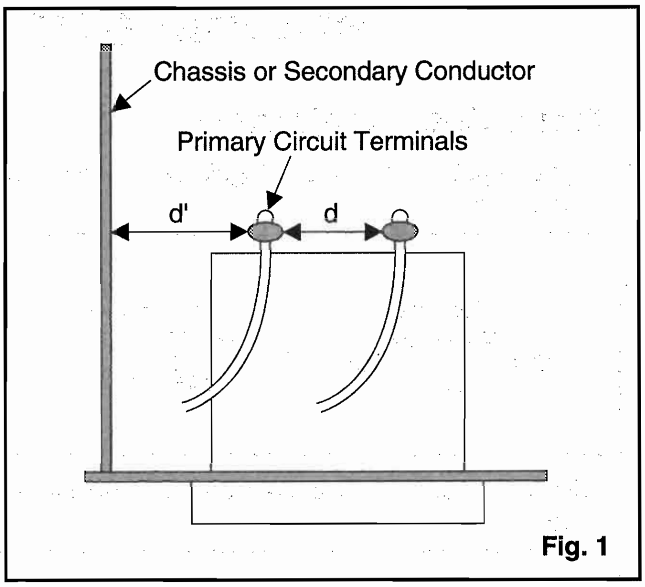


Fig. 1

Table 1 : Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d) (d')
110 to 130 V	USA or CANADA	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

2. Leakage Current Test

Confirm specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

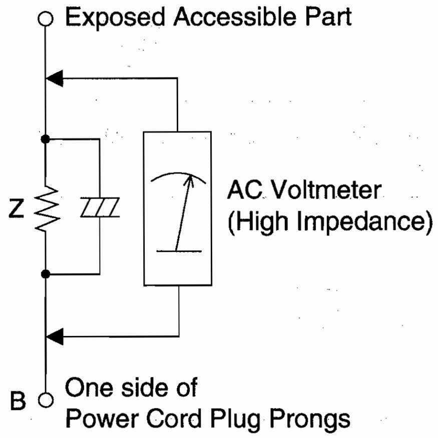


Fig. 2

Table 2 : Leakage current ratings for selected areas

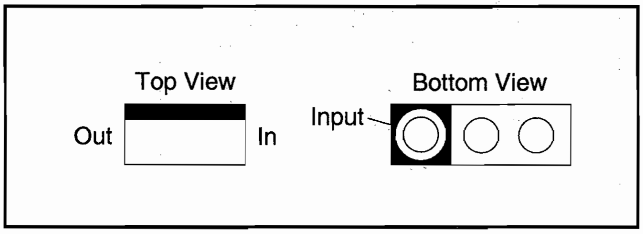
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	USA or CANADA	0.15µF CAP. & 1.5kΩ RES. connected in parallel	i≤0.5mA rms	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

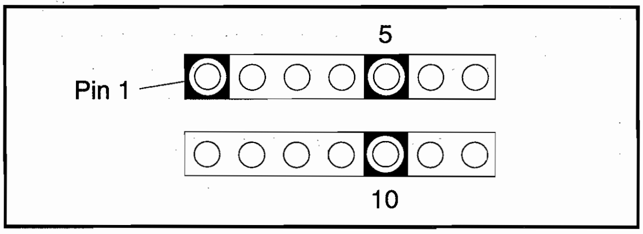
STANDARD NOTES FOR SERVICING

Circuit Board Indications

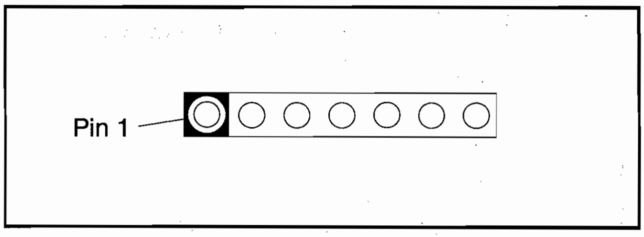
1. The output pin of the 3 pin Regulator ICs is indicated as shown:



2. For other ICs, pin 1 and every 5th pin is indicated as shown:

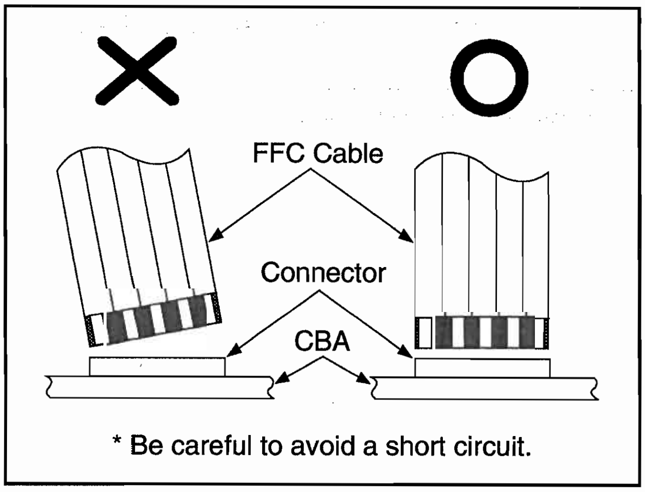


3. The 1st pin of every pin connector are indicated as shown:



Instructions for Connectors

1. When you connect or disconnect FFC cable (connector), be sure to disconnect the AC cord.
2. FFC cable (connector) should be inserted parallel into the connector, not at an angle.



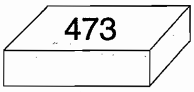
* Be careful to avoid a short circuit.

[CBA= Circuit Board Assembly]

How to Read the Values of the Rectangular Type Chip Components

Example:

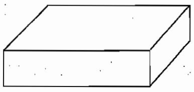
(a) Resistor



= 473 = 47 [kΩ]

(Top View)

(b) Capacitor



= Not Shown

(Top View)

Caution:

Once chip parts (Resistors, Capacitors, Transistors, etc.) are removed, they must not be reused. Always use a new part.

Replacement Procedures for Leadless (Chip) Components

The Following Procedures are Recommended for the Replacement of the Leadless Components Used in this Unit.

1. Preparation for replacement

a. Soldering Iron
   Use a pencil-type soldering iron (less than 30 watts).

b. Solder
   Eutectic solder (Tin 63%, Lead 37%) is recommended.

c. Soldering time
   Do not apply heat for more than 4 seconds.

d. Preheating
   Leadless capacitor must be preheated before installation. (130°C~150°C, for about two minutes.)

Notes:

a. Leadless components must not be reused after removal.

b. Excessive mechanical stress and rubbing for the component electrode must be avoided.

2. Removing the leadless component

Grasp the leadless component body with tweezers and alternately apply heat to both electrodes. When the solder on both electrodes has melted, remove leadless component with a twisting motion.

Notes:

a. Do not attempt to lift the component off the board until the component is completely disconnected from the board by the twisting action.

b. Take care not to break the copper foil on the printed board.

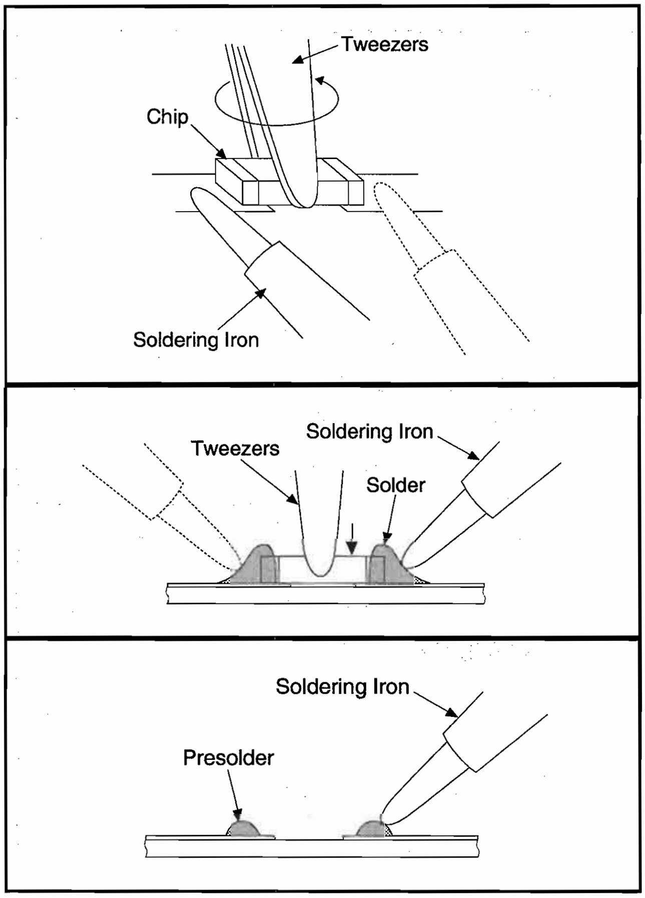
3. Installing the leadless component

a. Presolder the contact points of the circuit board.

b. Press the part downward with tweezers and solder both electrodes as shown below.

Note:

Do not glue the replacement leadless component to the circuit board.



How to Remove / Install Flat Pack IC

Caution:

1. Do not apply the hot air to the chip parts around the Flat Pack-IC for over 6 seconds as damage may occur to the chip parts. Put Masking Tape around the Flat Pack-IC to protect other parts from damage. (Fig. S-1-2)
2. The Flat Pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or solder lands under the IC when removing it.

1. Removal

With Hot - Air Flat Pack - IC Desoldering Machine:

a. Prepare the Hot - Air Flat Pack - IC Desoldering Machine, then apply hot air to Flat Pack - IC (about 5~6 seconds). (Fig. S-1-1)

b. Remove the Flat Pack- IC with tweezers while applying the hot air.

With Soldering Iron:

a. Using desoldering braid, remove the solder from all pins of the Flat Pack - IC. When you use solder flux which is applied to all pins of the Flat Pack - IC, you can remove it easily. (Fig. S-1-3)

b. Lift each lead of the Flat Pack - IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air Desoldering Machine. (Fig. S-1-4)

With Iron Wire:

a. Using desoldering braid, remove the solder from all pins of the Flat Pack - IC. When you use solder flux which is applied to all pins of the Flat Pack - IC, you can remove it easily. (Fig. S-1-3)

b. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.

c. Pull up on the wire as the solder melts so as to lift the IC leads from the CBA contact pads, while heating the pins using a fine tip soldering iron or hot air blower.

Note:

When using a soldering iron, care must be taken to ensure that the Flat Pack - IC is not being held by glue, or when it is removed from the CBA, it may be damaged if force is used.

2. Installation

a. Using desoldering braid, remove the solder from the foil of each pin of the Flat Pack - IC on the CBA, so you can install a replacement Flat Pack - IC more easily.

b. The "●" mark on the Flat Pack - IC indicates pin 1 (See Fig. S-1-6). Make sure this mark matches the 1 on the CBA when positioning for installation. Then pre - solder the four corners of the Flat Pack- IC (See Fig. S-1-7).

c. Solder all pins of the Flat Pack - IC. Make sure that none of the pins have solder bridges.

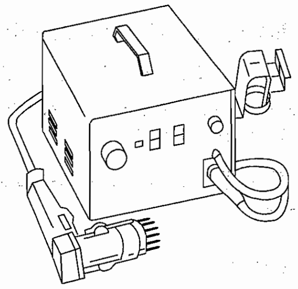


Fig. S-1-1

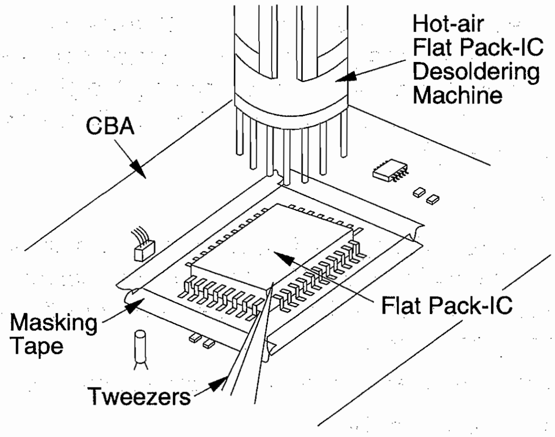


Fig. S-1-2

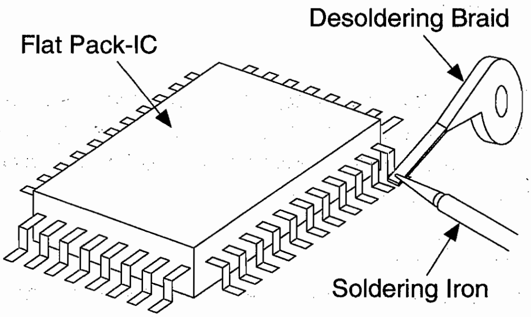


Fig. S-1-3

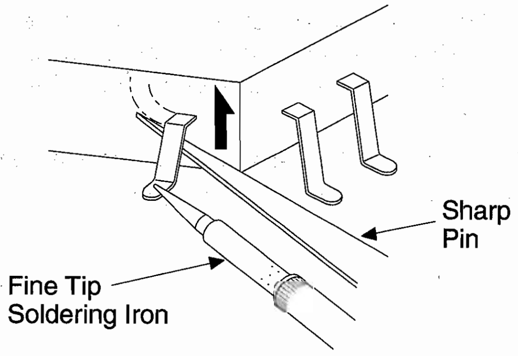


Fig. S-1-4

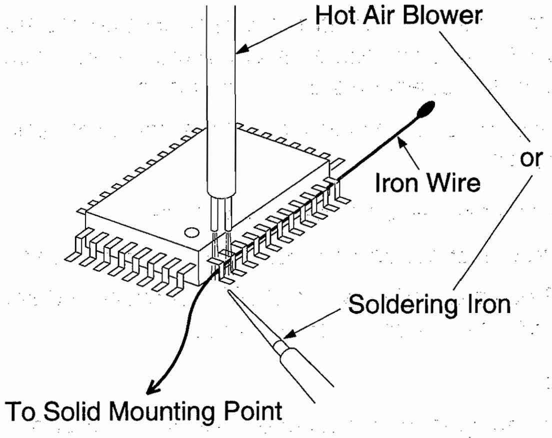
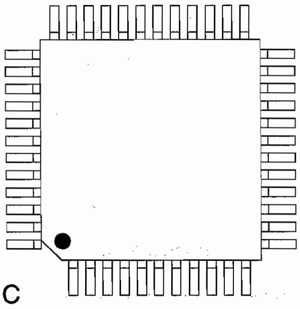


Fig. S-1-5

Example :



Pin 1 of the Flat Pack-IC
is indicated by a " ● " mark.

Fig. S-1-6

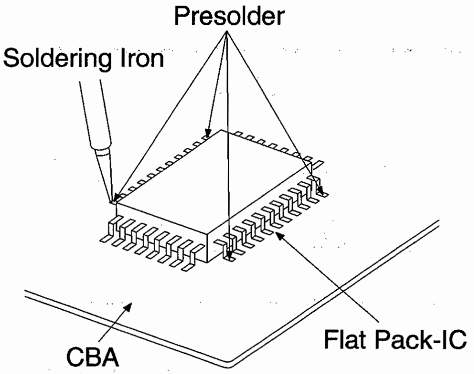


Fig. S-1-7

Instructions for Handling Semiconductors

Electrostatic breakdown of the semiconductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

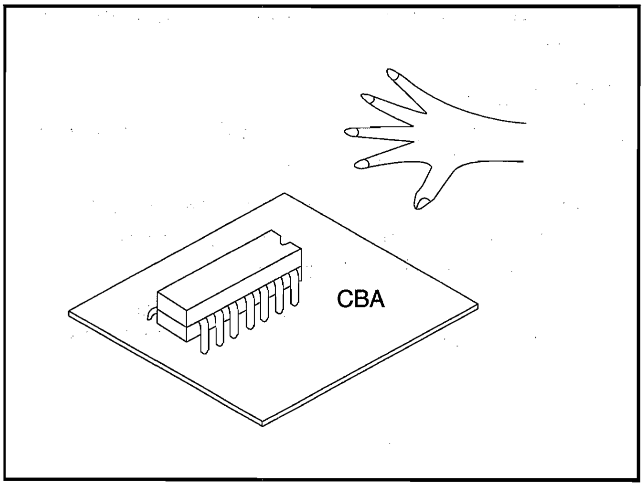
Ground for Human Body

Be sure to wear a grounding band (1MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

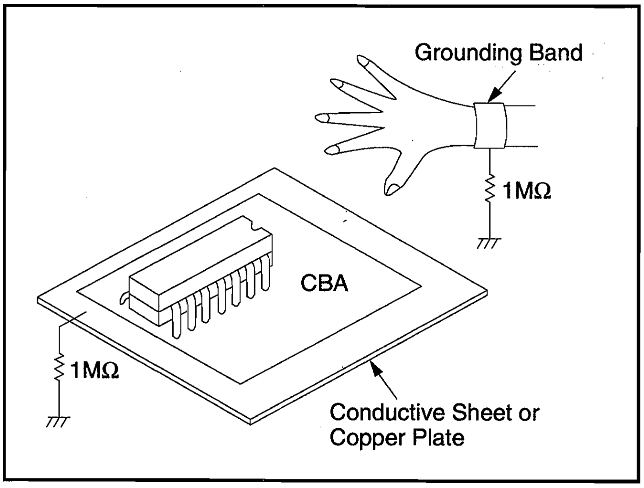
Ground for Work Bench

Be sure to place a conductive sheet or copper plate with proper grounding (1MΩ) on the work bench or other surface, where the semiconductors are to be placed. Because the static electricity charge on the clothing will not escape through the body grounding band, be careful to avoid contacting semiconductors to clothing.

Incorrect



Correct



PREPARATION FOR SERVICING

How to Enter the Service Mode

Caution: 1

1. Optical sensors system are used for Tape Start and End Sensor on this equipment. Read this page carefully and prepare as described on this page before starting to service; otherwise, the unit may operate unexpectedly.

Preparing: 1

1. Cover Q202 (START SENSOR) and Q201 (END SENSOR) with Insulation Tape or enter the service mode to activate Sensor Inhibition automatically.

Note: Avoid playing, rewinding or fast forwarding the tape to its beginning or end, because both Tape End Sensors are not active.

How to Enter the Service Mode

1. Turn power on.
2. Use service remote control unit and press WAKE-UP/SLEEP key. (See page1-7-1)
3. When entering the service mode, one of the number (1, 2 or 4) will display at corners of the screen.
4. During the service mode, electrical adjustment mode can be selected by remote control key. (Service remote control unit).

   Details are as follows.

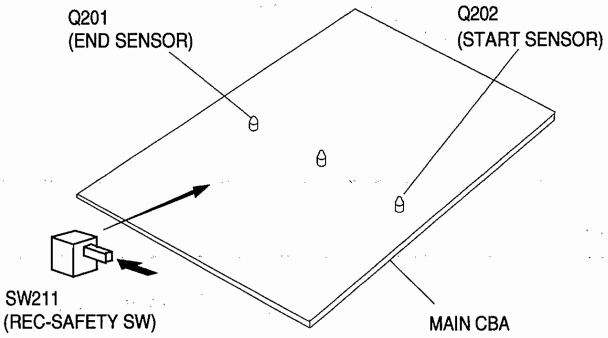
Key	Adjustment Mode
MENU	Picture adjustment mode : Press the MENU button to change from BRT (Bright), *CNT (Contrast), *CLR (Color), *TNT(Tint) and *V-T. Press CH UP/DOWN key to display Initial Value, Maximum and Minimum cyclically. *Marked items are not necessary to adjust normally.
0	C-Trap adjustment mode: See adjustment instructions page 1-7-2 .
1	No need to use.
2	AGC/H adjustment mode: See adjustment instructions page 1-7-2.
3	Auto AFT adjustment mode: See adjustment instructions page 1-7-1.
4	Auto record mode: Perform recording (15 Sec.)-->Stop-->Rewind (Zero return) automatically.
5	Head switching point adjustment mode: See adjustment instructions page 1-7-5.
6	No need to use.
7	Purity check mode: Shows Red, Green or Blue on the screen when the CH UP/DOWN keys are pressed.
8	H. Shift adjustment mode: See adjustment instructions page 1-7-3.
9	V.size/V. shift adjustment: See adjustment instructions page 1-7-3.
VOL ▼	Cut-off Adjustment 1-7-4.

Caution: 2

1. The deck mechanism assembly is mounted on the Main CBA directly, and SW211 (REC-SAFETY SW) is mounted on the Main CBA. When deck mechanism assembly is removed from the Main CBA due to servicing, this switch can not be operated automatically.

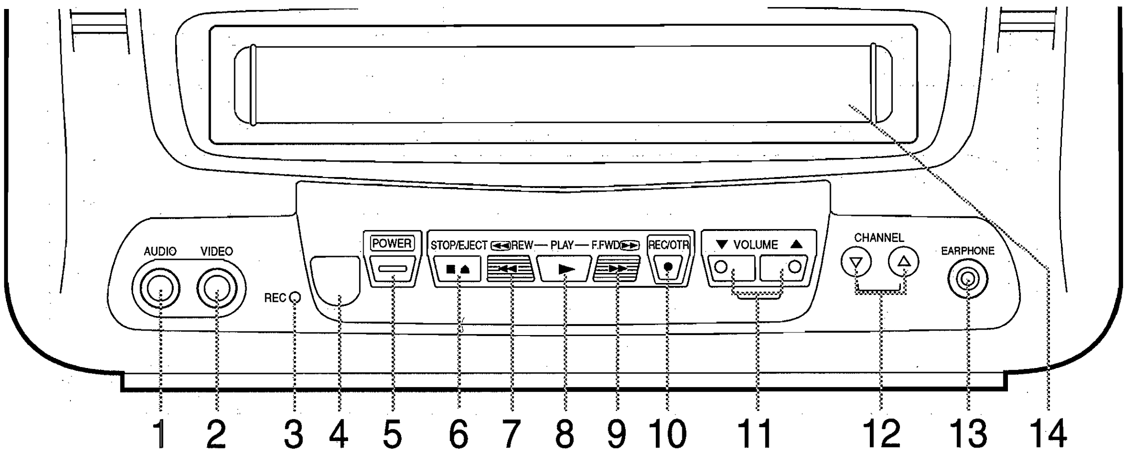
Preparing: 2

1. To eject the tape, press the STOP/EJECT button on the unit (or Remote Control).
2. When you want to record during the Service mode, press the Rec button while depressing SW211 (REC-SAFETY SW) on the Main CBA.

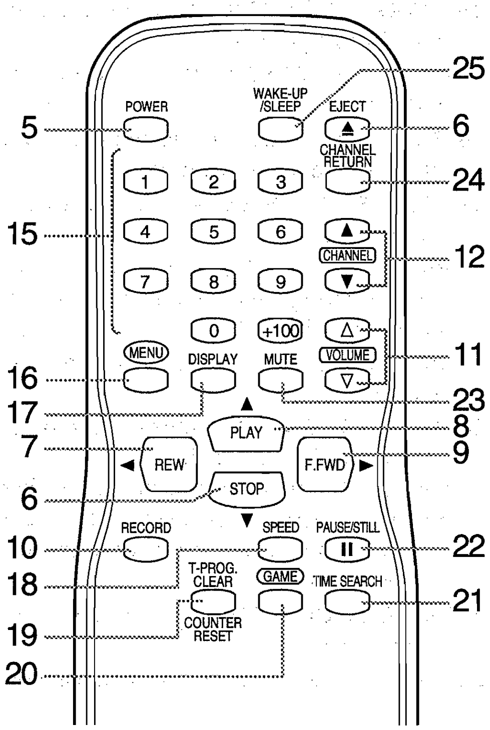


OPERATING CONTROLS AND FUNCTIONS

- TV/VCR FRONT PANEL -



- REMOTE CONTROL -



Part No. : N0107UD

1 **AUDIO input jack–** Connect to the audio output jack of your audio equipment, video camera or another VCR.

2 **VIDEO input jack–** Connect to the video output jack of your video camera or another VCR.

3 **RECORD indicator–** Flashes during recording. Lights up in the Stand-by mode for Timer Recording.

4 **Remote Sensor Window–** Receives the infrared signals from the remote control.

5 **POWER button–** Press to turn TV/VCR on and off. Press to activate timer recording.

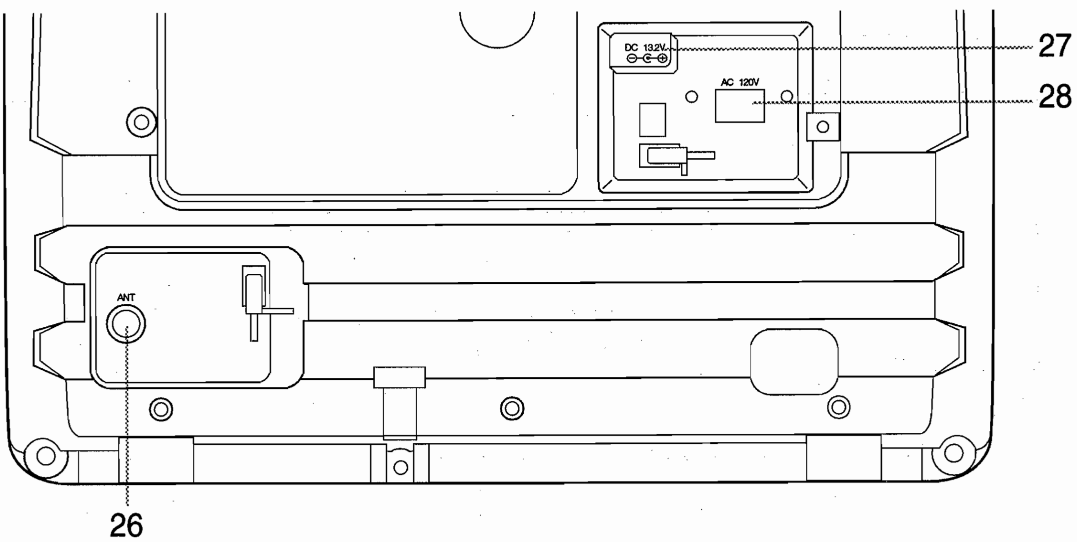
6 **STOP button–** Press to stop the tape motion.
EJECT button– Press in the Stop mode to remove tape from TV/VCR.
▼ button–
- Press to select setting modes from the on screen menu.
- Press to enter digits when setting program. (for example: setting clock or timer program)

7 **REW button–** Press to rewind the tape, or to view the picture rapidly in reverse during playback mode. (Rewind Search)
◀ button–
- Press to select a mode from a particular menu. (for example: LANGUAGE or USER'S SET UP)

8 **PLAY button–** Press to begin playback.
▲ button–
- Press to select setting modes from the on screen menu.
- Press to enter digits when setting program. (for example: setting clock or timer program)

9 **F.FWD button–** Press to rapidly advance the tape, or to view the picture rapidly in forward during playback mode. (Forward Search)
▶ button–
- When setting program (for example: setting clock or timer program), press to determine your selection and proceed to the next step you want to input.
- Press to determine setting modes from on screen menu.
- Press to select a mode from a particular menu. (for example: LANGUAGE or USER'S SET UP)

- REAR VIEW -



10 REC button– Press for manual recording.

OTR button– Activates One Touch Recording. (only on the TV/VCR)

11 VOLUME △ / ▽ buttons– Adjust the volume level.

12 CHANNEL ▲ / ▼ buttons– Press to select the desired channels for viewing or recording.

You may display the main menu on the TV screen by pressing repeatedly this button on the TV/VCR.

TRACKING function– Press to minimize video 'noise' (lines or dots on screen) during playback mode.

13 EARPHONE jack– Connects to earphones (not supplied) for personal listening. The size of jack is 1/8" monaural (3.5mm).

14 Cassette compartment

15 Number buttons– Press to select desired channels for viewing or recording. To select channels from 1 to 9, first press the 0 button and then 1 to 9.

+100 button– When selecting cable channels which are higher than 99, press this button first, then press the last two digits. (To select channel 125, first press the "+100" button then press "2" and "5".)

16 MENU button– Press to display the main menu on the TV screen.

17 DISPLAY button– Display the counter or the current channel number and current time on the TV screen.

18 SPEED button– Press to choose the desired recording speed:SP/SLP.

19 T-PROG. CLEAR button– Press to cancel a setting of timer program.

COUNTER RESET button– Press to reset counter to 0:00:00.

20 GAME button– Sets the game mode and external input mode at the same time.

21 TIME SEARCH button– Press to activate Time Search mode.

22 PAUSE/STILL button– Press to temporarily stop the tape during the recording or to view a still picture during playback.

23 MUTE button– Mutes the sound. Press it again to resume sound.

24 CHANNEL RETURN button– Press to go back to the previously viewed channel. For example, pressing this button once will change channel display from 3 (present channel) to 10 (previously viewed channel), and pressing it a second time will return from 10 to 3.

25 WAKE-UP/SLEEP button– Sets the Wake up or Sleep Timer.

26 ANT. terminal– Connect to an antenna or cable system.

27 DC 13.2V jack– Connect to the Car Battery Cord.

28 AC 120V jack– Connect to the AC cord.

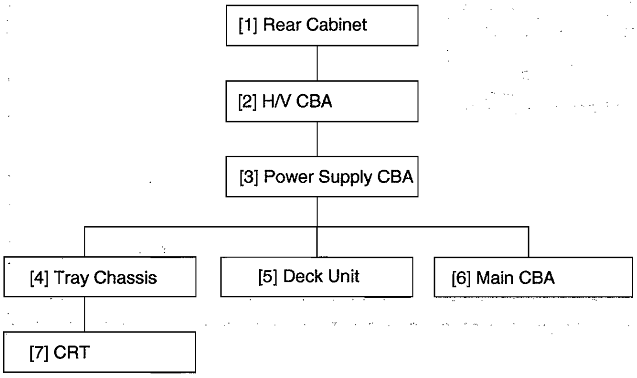
CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.

Caution !!

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.



2. Disassembly Method

STEP/ LOC. NO.	PART	REMOVAL		
		FIG. NO.	REMOVE/*UNLOCK/ RELEASE/UNPLUG/ UNCLAMP/DESOLDER	NOTE
[1]	Rear Cabinet	1, 2	5(S-1), 1(S-2), 2(S-3)	1
[2]	H/V CBA	3, 5	Anode Cap, CRT CBA, CL501A, CN503, CN571, CN575, CN602, Unclamp H/V CBA	2
[3]	Power SupplyCBA	3, 5	CN1601, CN603, 3(S-5), 2(L-1), 2(S-6)	3
[4]	Tray Chassis	3, 5	CN802	4
[5]	Deck Unit	3, 6	(S-7), 1(S-8), 1(S-9)	5
[6]	Main CBA	3,5	4(S-10)	6
[7]	CRT	4	4(S-11)	7
↓	↓	↓	↓	↓
①	②	③	④	⑤

Note :

①. Order of steps in Procedure. When reassembling, follow the steps in reverse order.
These numbers are also used as the identification (location) No. of parts in Figures.

②. Parts to be removed or installed.

③. Fig. No. showing Procedure of Part Location

④. Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.

S=Screw, P=Spring, L=Locking Tab, CN=Connector, *=Unhook, Unlock, Release, Unplug, or Desolder

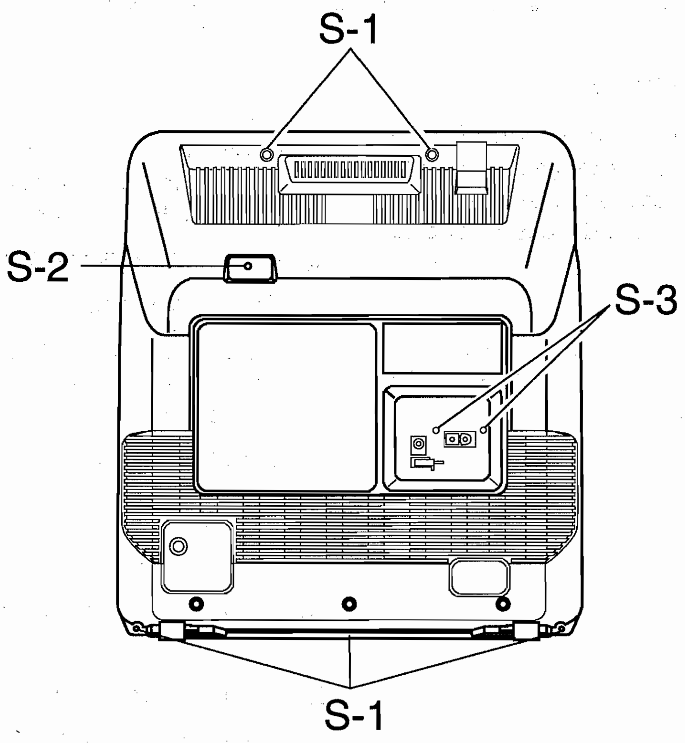
2(S-2) = two Screw (S-2)

⑤. Refer to the following"Reference Notes in the Table" following.

Reference Notes in the Table

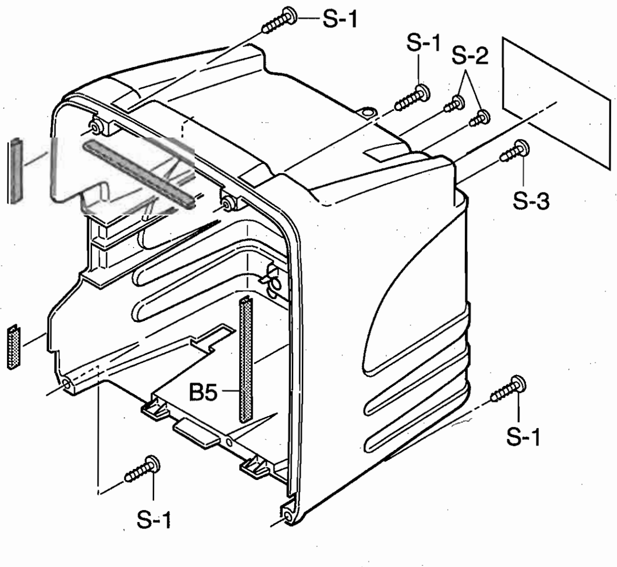
1. Removal of the Rear Cabinet. Remove screws 5(S-1), 1(S-2) and 2(S-3).
2. Removal of the H/V CBA. Disconnect the Anode Lead of the CRT with the CRT ground before removing the Anode Cap.

   Disconnect the following: Anode Cap, CRT CBA, CL501A, CN503, CN571, CN575, CN602.
3. Removal of the Power Supply CBA. Disconnect CN1601 and CN603. Remove screw 2(S-5). Slide the Power Supply CBA Holder backward. Remove screw 3(S-6) and release 2(L-1). Pull the Power Supply CBA backward.
4. Removal of the Tray chassis. disconnect CN802. slide Tray chassis backward.
5. Removal of the Deck Unit. Remove screws 6(S-7), 1(S-8) and 1(S-9). Lift up the Deck Unit.
6. Removal of the Main CBA. Remove screws 4(S-10).
7. Removal of the CRT. Remove screws 4(S-11) and Pull the CRT backward.



[1] REAR CABINET

Fig. 1



[1] REAR CABINET

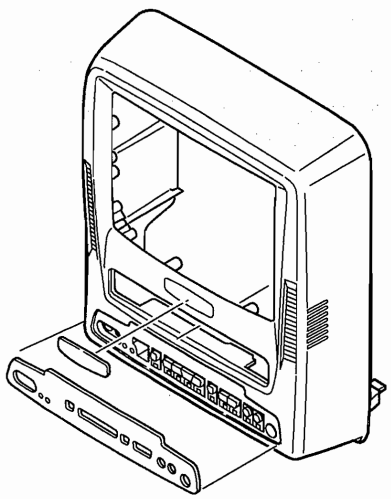


Fig. 2

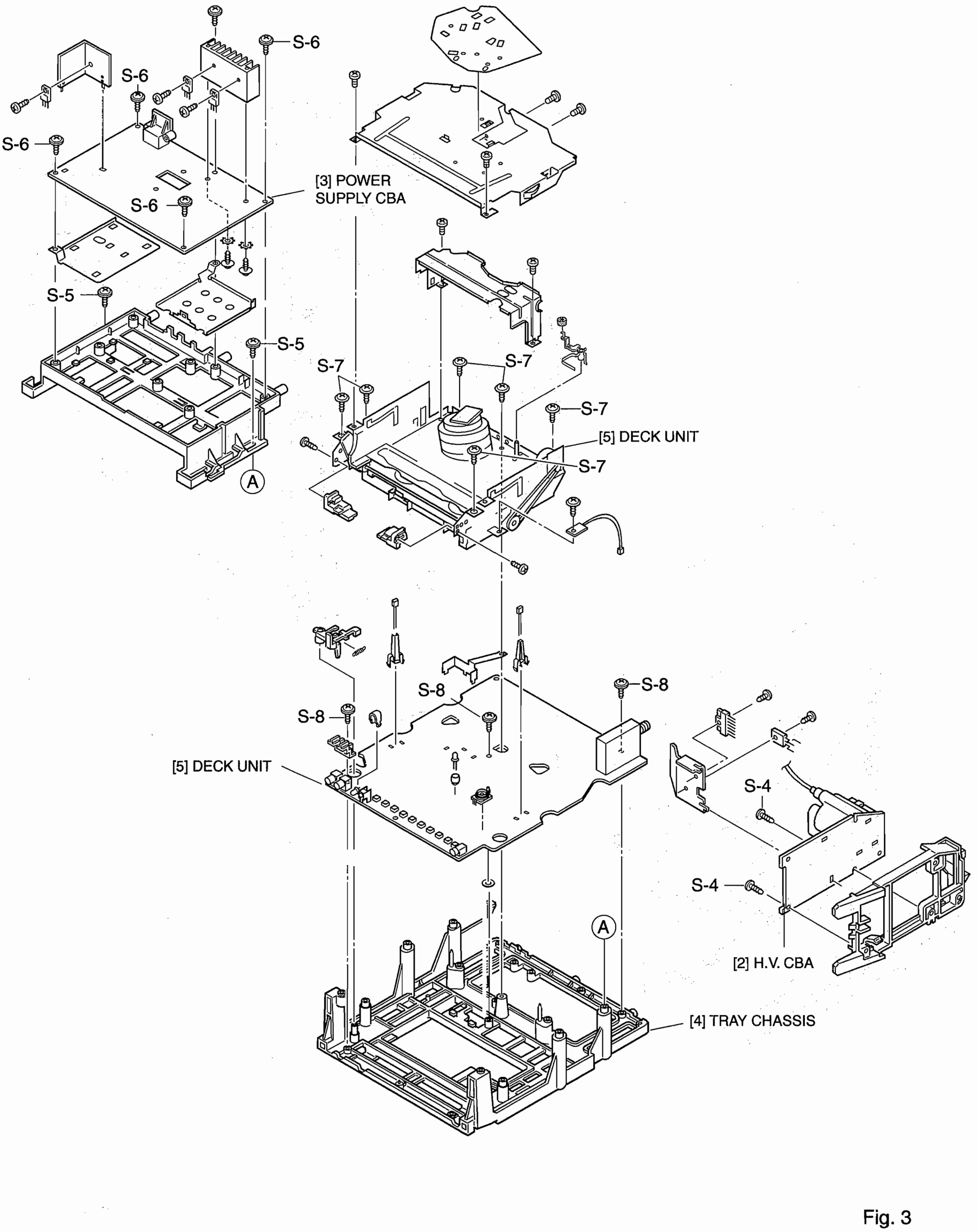

S-6
S-6
S-6
S-6
[3] POWER SUPPLY CBA
S-5
S-5
A
S-7
S-7
S-7
[5] DECK UNIT
S-7
S-8
S-8
S-8
[5] DECK UNIT
S-4
S-4
A
[2] H.V. CBA
[4] TRAY CHASSIS

Fig. 3

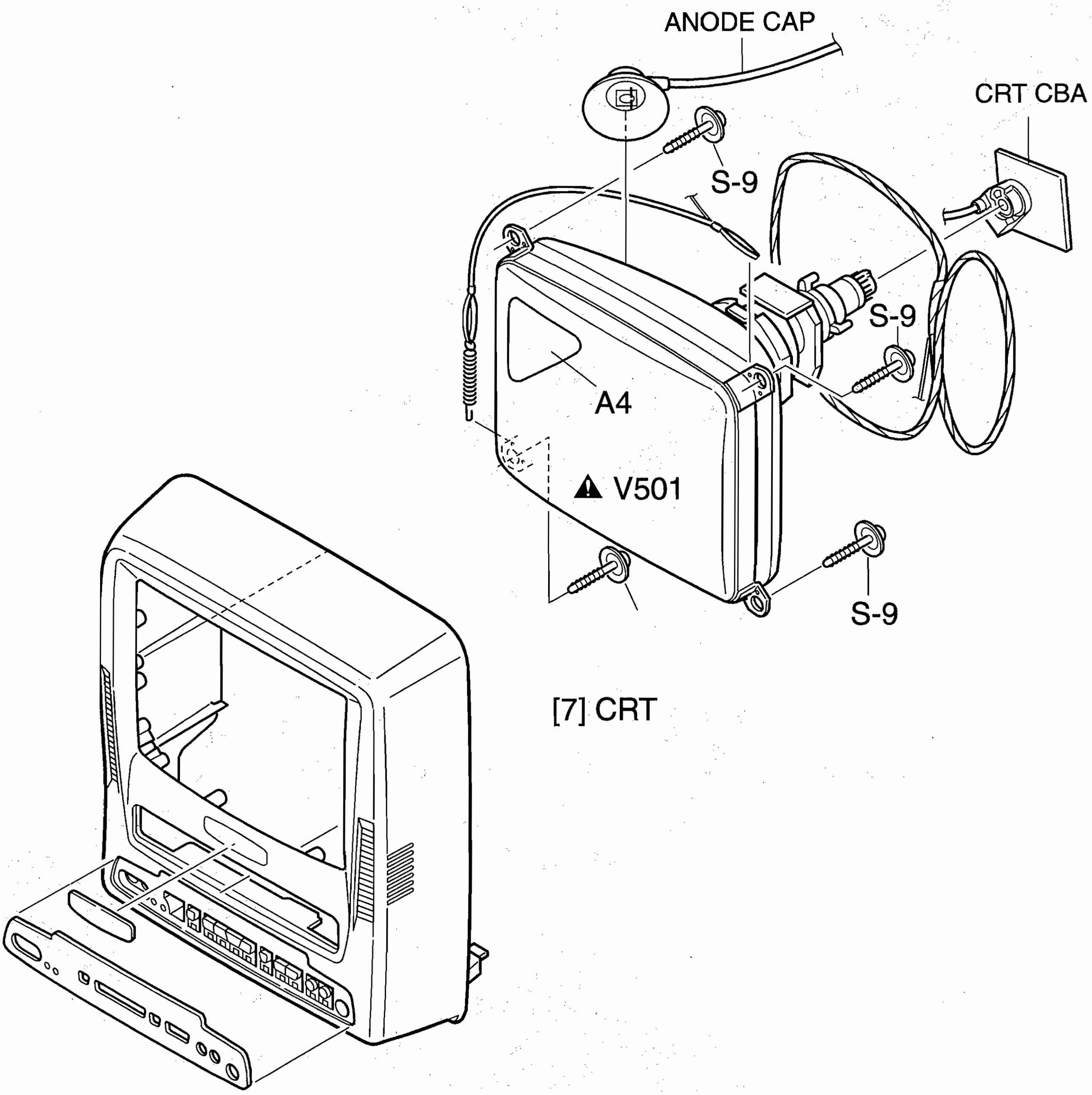


Fig. 4

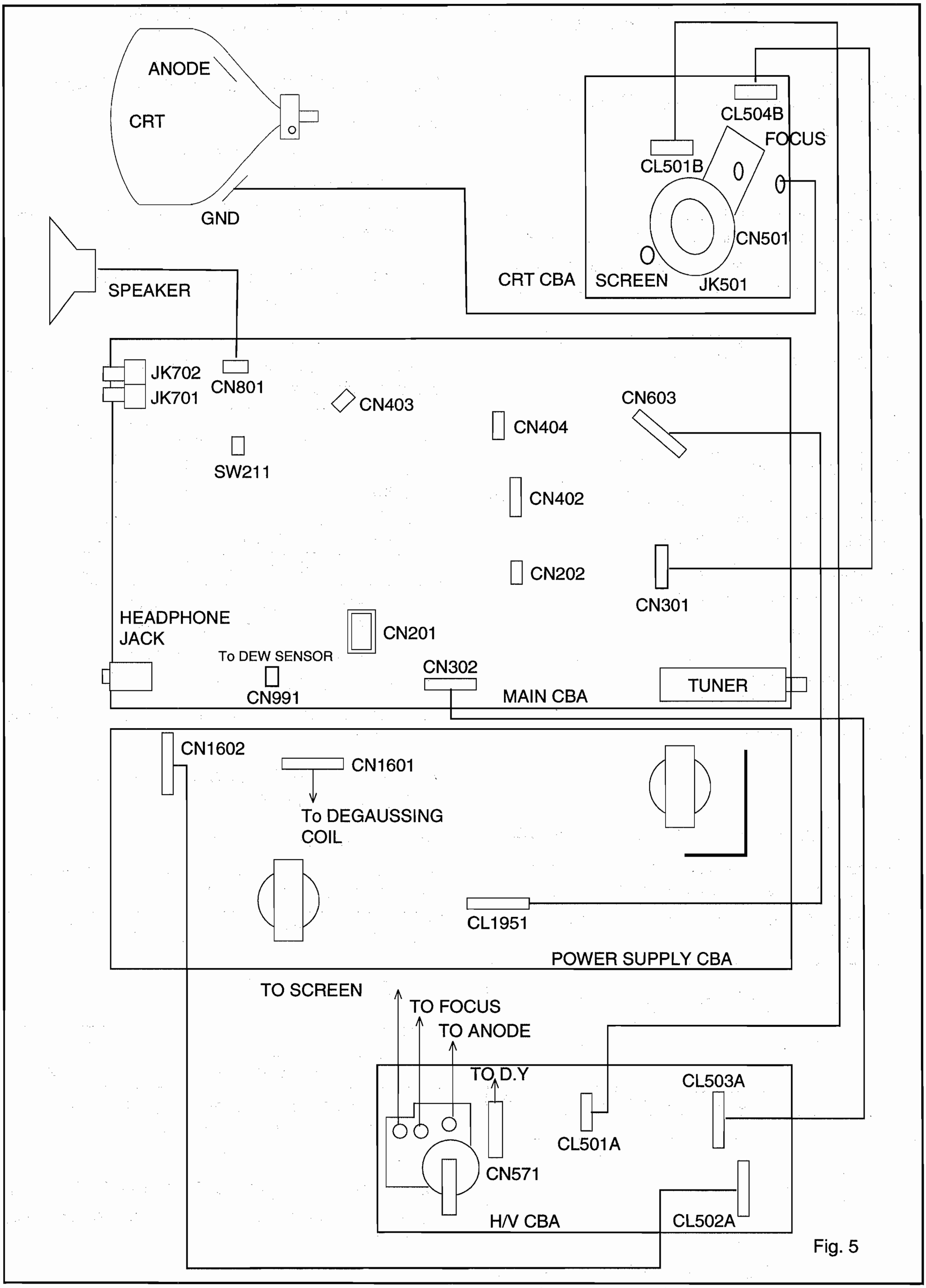

ANODE
CRT
GND
SPEAKER
CL504B
FOCUS
CL501B
CN501
CRT CBA
SCREEN
JK501
JK702
JK701
CN801
CN403
CN404
CN603
SW211
CN402
CN202
CN301
HEADPHONE JACK
CN201
To DEW SENSOR
CN991
CN302
MAIN CBA
TUNER
CN1602
CN1601
To DEGAUSSING COIL
CL1951
POWER SUPPLY CBA
TO SCREEN
TO FOCUS
TO ANODE
TO D.Y
CL503A
CL501A
CN571
H/V CBA
CL502A

Fig. 5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: "CBA" is abbreviation for " Circuit Board Assembly."

NOTE:

Electrical adjustments are required after replacing circuit components and certain mechanical parts.

It is important to perform these adjustments only after all repairs and replacements have been completed.

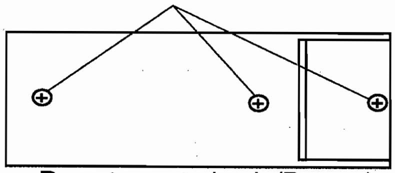
Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

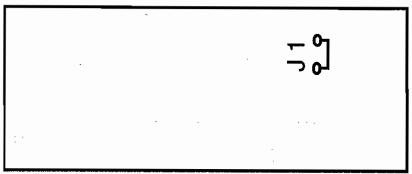
1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. AC Milli Voltmeter (RMS)
3. Alignment Tape (FL8A, FL8N), Blank Tape
4. DC Voltmeter
5. Oscilloscope: Dual-trace with 10:1 probe,
   V-Range: 0.001~50V/Div,
   F-Range: DC~AC-60MHz
6. Frequency Counter
7. Plastic Tip Driver

How to make service remote control unit:

1. Prepare normal remote control unit. (Part No. N0107UD) Remove 3 screws from the back lid. (Fig. 1-1)
2. Added J1 (Jumper Wire) to the remote control CBA. (Fig. 1-2)



Remote control unit (Bottom) **Fig. 1-1**



Remote control CBA **Fig. 1-2**

How to Set up the Service mode:

Service Mode:

1. Use the service remote control unit.
2. Turn the power on.
3. Press " WAKE-UP/SLEEP " button on the service remote control unit.

1a. DC 117V (+B) Adjustment (AC Power)

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

Test Point	Adjustment Point	Mode	Input
J553 (+B) J563 (GND)	VR1620	---	---
Tape	M. EQ.	Spec.	
---	DC Voltmeter	+117±0.5V DC	

Note: J553(+B), J563(GND) --- H.V. CBA
VR1620 --- Power Supply CBA

1. Connect the unit to AC Power Outlet.
2. Connect DC Volt Meter to J553(+B) and J563(GND).
3. Adjust VR1620 so that the voltage of J553(+B) becomes +117±0.5V DC.

1b. DC 117V (+B) Adjustment (DC Power)

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

Test Point	Adjustment Point	Mode	Input
J553 (+B) J563 (GND)	VR1951	---	---
Tape	M. EQ.	Spec.	
---	DC Voltmeter	+117±0.5V DC	

Note: J553(+B), J563(GND) --- H.V. CBA
VR1951 --- Power Supply CBA

1. Input 13.2V DC to DC Jack..
2. Connect DC Volt Meter to J553(+B) and J563(GND).
3. Adjust VR1951 so that the voltage of J553(+B) becomes +117±0.5V DC.

2. Auto AFT (VCO) Adjustment

Purpose: To operate AFT correctly.

Symptom of Misadjustment: AFT does not work correctly and/or synchronization is faulty.

Test Point	Adjustment Point	Mode	Input
---	---	VIDEO	---
Tape	**M. EQ.**	**Spec.**	
---	---	---	

1. Set the unit to the VIDEO mode with no signal input.
2. Enter the Service mode. (See page 1-4-1) Then press number "3" button on the remote control unit.
3. If the screen color changes to "Green" then this adjustment is finished.
4. If the screen color changes to "Red" then this adjustment is failed. Repeat steps 1 and 2 or check relative circuit or parts (IC).

3. TV AGC Adjustment

Purpose: Set AGC (Auto Gain Control) Level.

Symptom of Misadjustment: AGC does not synchronize correctly when RF input level is too weak and picture distortion may occur if it is too strong.

Test Point	Adjustment Point	Mode	Input
AGC	CH. ▲ / ▼ buttons	---	Color Bar 67.25MHz 60dBμV
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator DC Volt Meter	+2.8V±0.3VDC +2.8V±0.3VDC +2.8V±0.3VDC	

Notes: AGC --- Main CBA

1. Enter the Service mode. (See page 1-4-1) Then press number "2" button on the remote control unit.
2. Receive the Color Bar signal for channel 4 (67.25MHz). (RF Input Level: 60dBμV)

3-1. Press CH. ▲ / ▼ buttons so that the voltage of AGC becomes +2.8V±0.3V DC.
(Tuner Type No. TEDH9-300A)

3-2. Press CH. ▲ / ▼ buttons so that the voltage of AGC becomes +2.8V±0.3V DC.
(Tuner Type No. B8055AR)

3-3. Press CH. ▲ / ▼ buttons so that the voltage of AGC becomes +2.8V±0.3V DC.
(Tuner Type No. B8095AP)

4. Turn the power off and on again.

4-1. H Adjustment

Purpose: To get correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
D302 CATHODE	CH ▲ / ▼ buttons	VIDEO	----
Tape	**M. EQ.**	**Spec.**	
----	Frequency Counter	15.734kHz±300Hz	

Note: D302 CATHODE --- Main CBA

1. Connect Frequency Counter to INT. MONITOR.
2. Set the unit to the VIDEO mode and no input is necessary. Enter the Service mode.
(See page 1-4-1)
3. Operate the unit for at least 20 minutes.
4. Press "2" button on the remote control unit and select H-Adj Mode. (Press "2" button, then display will change H-Adj and AGC.)
5. Press CH ▲ / ▼ buttons on the remote control unit so that the display will change "0" to "7."
At this moment, choose display "0" to "7" when the Frequency counter display is closest to 15.734kHz±300Hz.
6. Turn the power off and on again.

4-2. C-Trap Adjustment

Purpose: To get minimum leakage of the color signal carrier.

Symptom of Misadjustment: If C-Trap Adjustment is incorrect, stripes will appear on the screen.

Test Point	Adjustment Point	Mode	Input
R515 (B-Out)	CH ▲ / ▼ buttons	---	Color Bar
Tape	M. EQ.	Spec.	
----	Oscilloscope	200mV P-P	

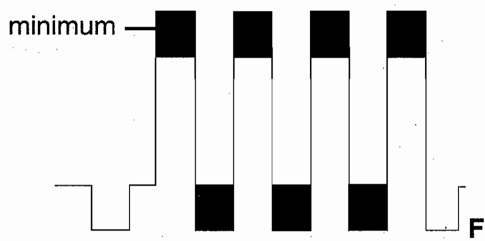


Fig. 2

Note: R515 (B-Out)--- CRT CBA

1. Connect Oscilloscope to J070.
2. Input a color bar signal from RF input.
   Enter the Service mode. (See page 1-4-1)
3. Press "0" button on the remote control unit and select C-TRAP Mode.
4. Press CH ▲ / ▼ buttons on the remote control unit so that the carrier leakage B-Out (3.58MHz) value becomes minimum on the oscilloscope.
5. Turn the power off and on again.

5. V. Size Adjustment

Purpose: To obtain correct vertical height of screen image.

Symptom of Misadjustment: If V. Size is incorrect, vertical height of image on the screen may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	CH ▲ / ▼ buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	90±5%	

Note:

1. Enter the Service mode. (See page 1-4-1)
   Press "9" button on the remote control unit and select V-S Mode. (Press "9" button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press CH ▲ / ▼ buttons on the remote control unit so that the monoscope pattern is 90±5% of display size and the circle is round.

6. V. Shift Adjustment

Purpose: To obtain correct vertical position of screen image.

Symptom of Misadjustment: If V. position is incorrect, vertical position of image on the screen may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	CH ▲ / ▼ buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	90±5%	

Note:

1. Enter the Service mode. (See page 1-4-1)
   Press "9" button on the remote control unit and select V-P Mode. (Press "9" button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press CH ▲ / ▼ buttons on the remote control unit so that the top and bottom of the monoscope pattern are equal to each other.

7. H. Shift Adjustment

Purpose: To obtain correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	CH ▲ / ▼ buttons	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	90±5%	

Note:

1. Enter the Service mode. (See page 1-4-1) Press "8" button on the remote control unit and select H-P Mode.
2. Input monoscope pattern.
3. Press CH ▲ / ▼ buttons on the remote control unit so that the left and right side of the monoscope pattern are equal to each other.
4. Turn the power off and on again.

8. Cut-off Adjustment

Purpose: To adjust the beam current of R, G, B, and screen voltage.

Symptom of Misadjustment: White color may be reddish, greenish or bluish.

Test Point	Adjustment Point	Mode	Input
---	Screen-Control	Ext.	Black Raster / White Raster
Tape	M. EQ.	Spec.	
---	Pattern Generator	See Reference Notes below.	

Figure

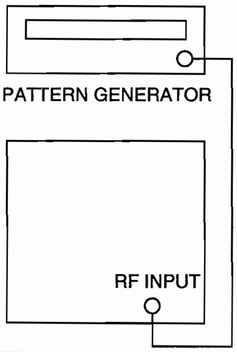


Fig. 3

Note: Screen Control FBT --- H/V CBA

F.B.T= Fly Back Transformer

Use the Remote Control Unit

1. Degauss the CRT and allow CRT to operate for 20 minutes before starting the alignment.
2. Set the screen control to minimum position. Input the Black raster signal from RF input.
3. Enter the Service Mode. (See page 1-4-1) Dimmed horizontal line appears on the CRT.
4. Press the "VOL ▼" button. (Press "VOL▼" then display will change CUT OFF/DRIVE, VCO adjustment, Analog OSD adjustment).
5. Choose CUT OFF/DRIVE Mode then press "1" button. This adjustment mode is CUT OFF (R).
6. Press the "CH ▲ / ▼" button until the horizontal line becomes white.
7. Choose CUT OFF/DRIVE mode then press "2" button. This adjustment mode is CUT OFF (G). Press "CH ▲ / ▼" until the horizontal line becomes white.
8. Choose CUT OFF/DRIVE Mode then press "3" button. This adjustment mode is CUT OFF (B). Press "CH ▲ / ▼" until the horizontal line becomes white.
9. Input the White Raster Signal from Video In.
10. Choose CUT OFF/DRIVE mode then press "4." Adjust the RED DRIVE as needed with the CH ▲ / ▼ buttons.
11. Choose CUT OFF/DRIVE mode then press "5." Adjust the BLUE DRIVE as needed with the CH ▲ / ▼ buttons.
12. Turn the power off and on again.

9. Sub-Brightness Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: If Sub-Brightness is incorrect, proper brightness cannot be obtained by adjusting the Brightness Control.

Test Point	Adjustment Point	Mode	Input
---	CH ▲ / ▼ buttons	---	SYMPTE 7.5 IRE
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below	
Figure			

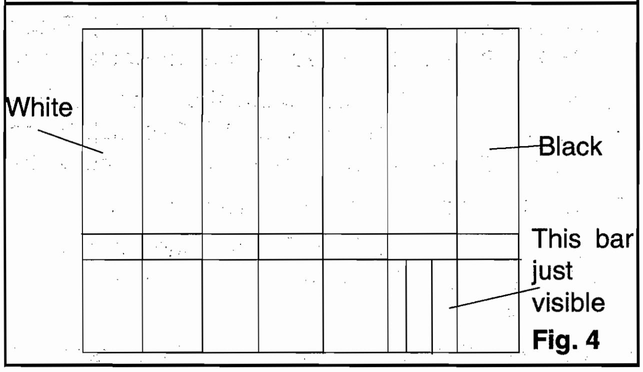


Fig. 4

Note: SYMPTE Setup level --- 7 IRE

1. Enter the Service Mode. (See page 1-4-1) Then input SYMPTE signal from RF input.
2. Press MENU button. (Press MENU button then display will change B R T, C N T, COL, T N T, V-T and SHP). Select BRT and press CH ▲ / ▼ buttons so that the bar is just visible (See above figure).
3. Turn the power off and on again.

10. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: If Focus Adjustment is incorrect, blurred images are shown on the display.

Test Point	Adjustment Point	Mode	Input
---	Focus Control	---	Monoscope
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	

Note: Focus VR (FBT) --- H/V CBA

FBT= Fly Back Transformer

1. Operate the unit more than 30 minutes
2. Face the unit to the East and degauss the CRT using a Degaussing Coil.
3. Input the monoscope pattern.
4. Adjust the Focus Control on the FBT to obtain clear picture.

11. Head Switching Position Adjustment

Purpose: Determine the Head Switching Point during Play back.

Symptom of Misadjustment: May cause Head Switching Noise or Vertical Jitter in the picture.

Note: Unit reads Head Switching Position automatically and displays it on the screen (Upper Left Corner).

1. Playback test tape (FL8A, FL8N).
2. Enter the Service Mode. (See page 1-4-1) Then press the number 5 button on the remote control unit.
3. The Head Switching position will display on the screen; if adjustment is necessary follow step 4. 6.5H(412.7µs) is preferable.
4. Press "CH ▲" or "CH ▼" button on the remote control unit if necessary. The value will be changed in 0.5H steps up or down. Adjustable range is up to 9.5H. If the value is beyond adjustable range, the display will change as:
   Lower out of range; 0.0H
   Upper out of range; -.-H
5. Turn the power off and on again.

12. CCS Text Box Location

When replacing the CRT, the CCS Box might not stay in appropriate position. Then, replace micro computer.

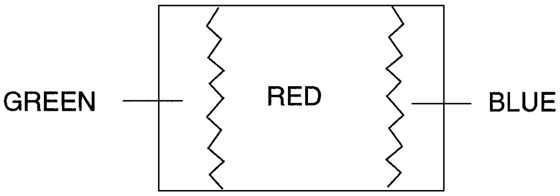
Note: This adjustment automatically done by the micro-computer.

The following 2 adjustments normally are not attempted in the field. They should be done only when replacing the CRT then adjust as a preparation.

13. Purity Adjustment

Purpose: To obtain pure color.

Symptom of Misadjustment: If Color Purity Adjustment is incorrect, large areas of color may not be properly displayed.

Test Point	Adjustment Point	Mode	Input
---	Deflection Yoke Purity Magnet	---	*Red Color
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	
Figure			
 Fig. 5			

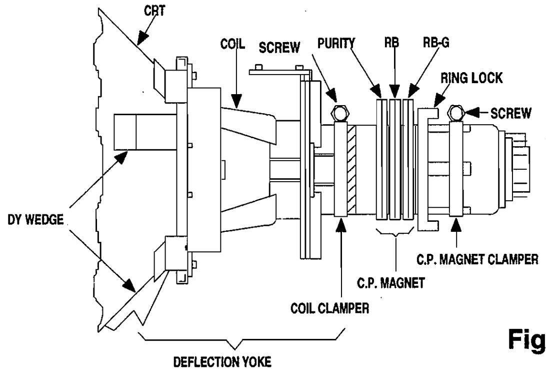
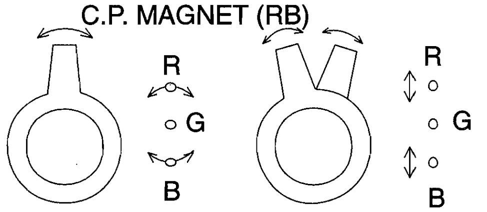
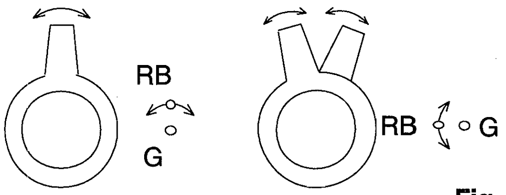
* This becomes RED COLOR if push 7KEY with a service mode.

1. Set the unit facing east.
2. Operate the unit for over 30 minutes before adjusting.
3. Fully degauss the unit using an external degaussing coil.
4. Set the unit to the AUX Mode which is located before CH2 then input a red raster from video in.
5. Loosen the screw on the Deflection Yoke Clamper and pull the Deflection Yoke back away from the screen. (See Fig. 6)
6. Loosen the Ring Lock and adjust the Purity Magnets so that a red field is obtained at the center of the screen. Tighten Ring Lock. (See Fig. 5,6)
7. Slowly push the Deflection Yoke toward the bell of the CRT and set it where a uniform red field is obtained.
8. Tighten the clamp screw on the Deflection Yoke.

14. Convergence Adjustment

Purpose: To obtain proper convergence of red, green and blue beams.

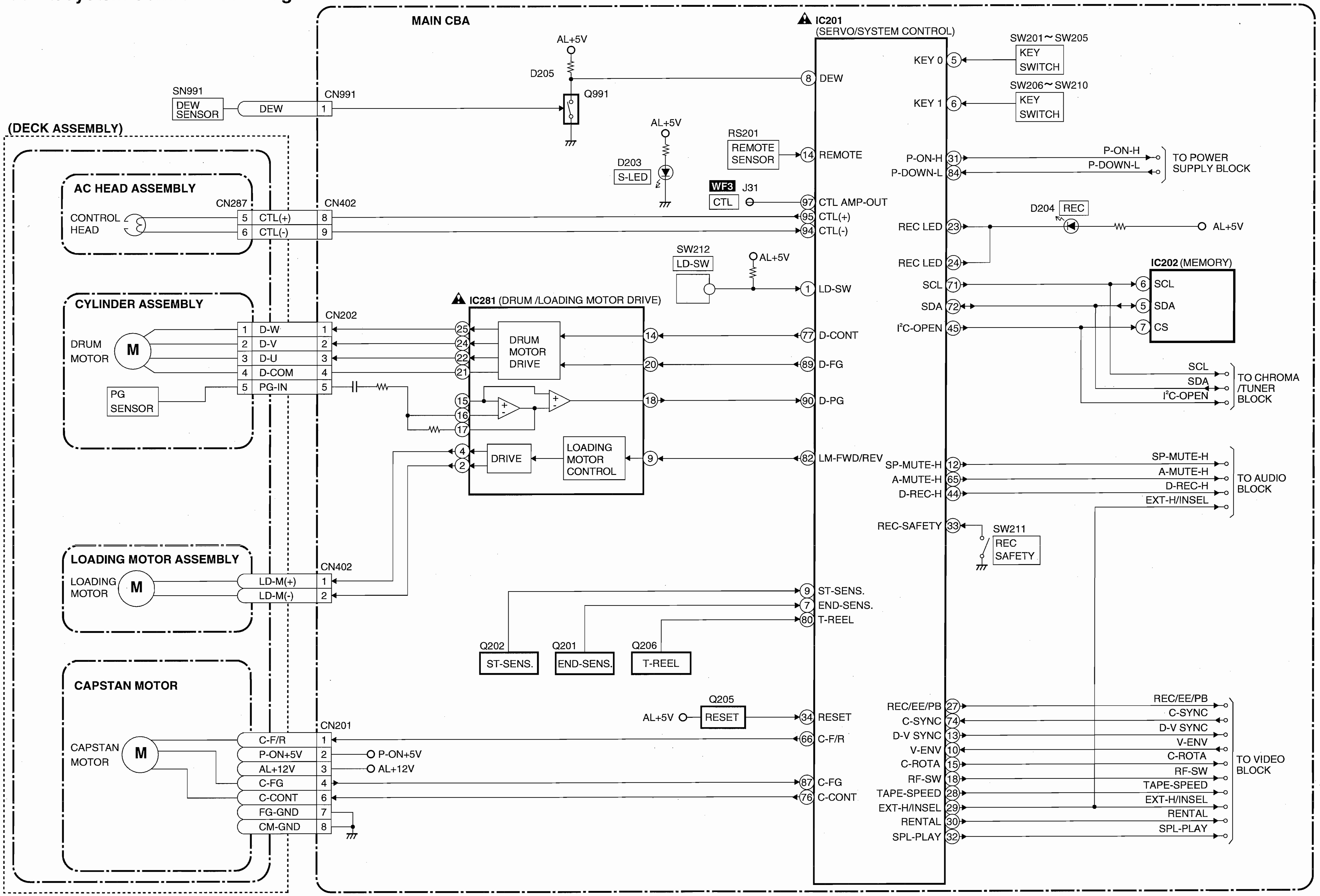
Symptom of Misadjustment: If Convergence Adjustment is incorrect, the edge of white letters may have color edges.

Test Point	Adjustment Point	Mode	Input
---	C.P. Magnet (RB), C.P. Magnet (RB-G), Deflection Yoke	---	Dot Pattern or Crosshatch
Tape	M. EQ.	Spec.	
---	Pattern Generator	See below.	
Figures			
 CRT COIL SCREW PURITY RB RB-G RING LOCK SCREW DY WEDGE C.P. MAGNET CLAMPER C.P. MAGNET COIL CLAMPER DEFLECTION YOKEFig. 6 C.P. MAGNET (RB)  Fig. 7 C.P. MAGNET (RB-G)  Fig. 8			

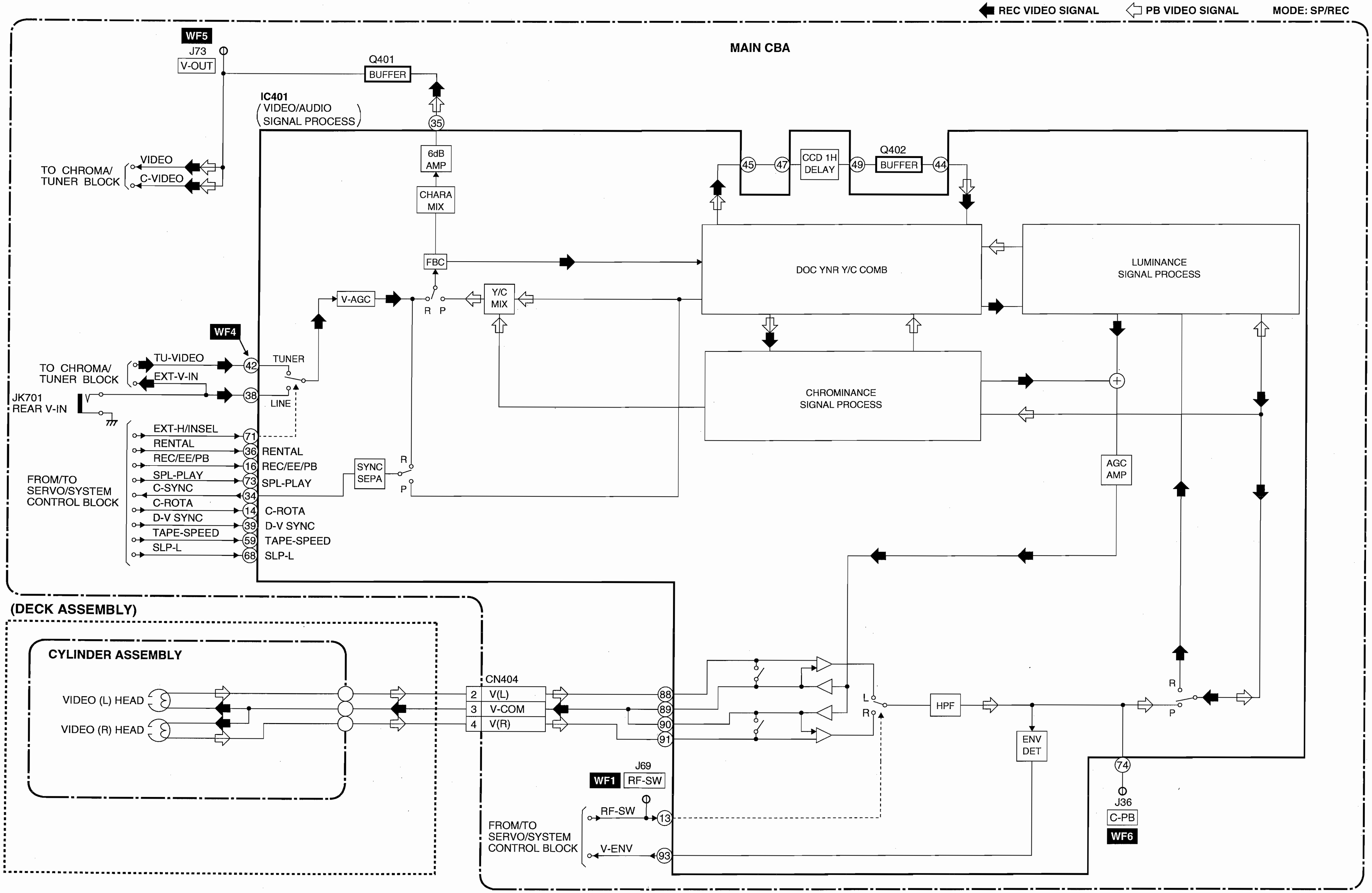
1. Set the unit to the AUX Mode which is located before CH2 then input a Dot or crosshatch pattern.
2. Loosen the Ring Lock and align red with blue dots or Crosshatch at the center of the screen by rotating (RB) C.P. Magnets. (See Fig. 7)
3. Align red / blue with green dots at the center of the screen by rotating (RB-G) C.P. Magnet. (See Fig. 8)
4. Fix the C.P. Magnets by tightening the Ring Lock.
5. Remove the DY Wedges and slightly tilt the Deflection Yoke horizontally and vertically to obtain the best overall convergence.
6. Fix the Deflection Yoke by carefully inserting the DY Wedges between CRT and Deflection Yoke.

BLOCK DIAGRAMS

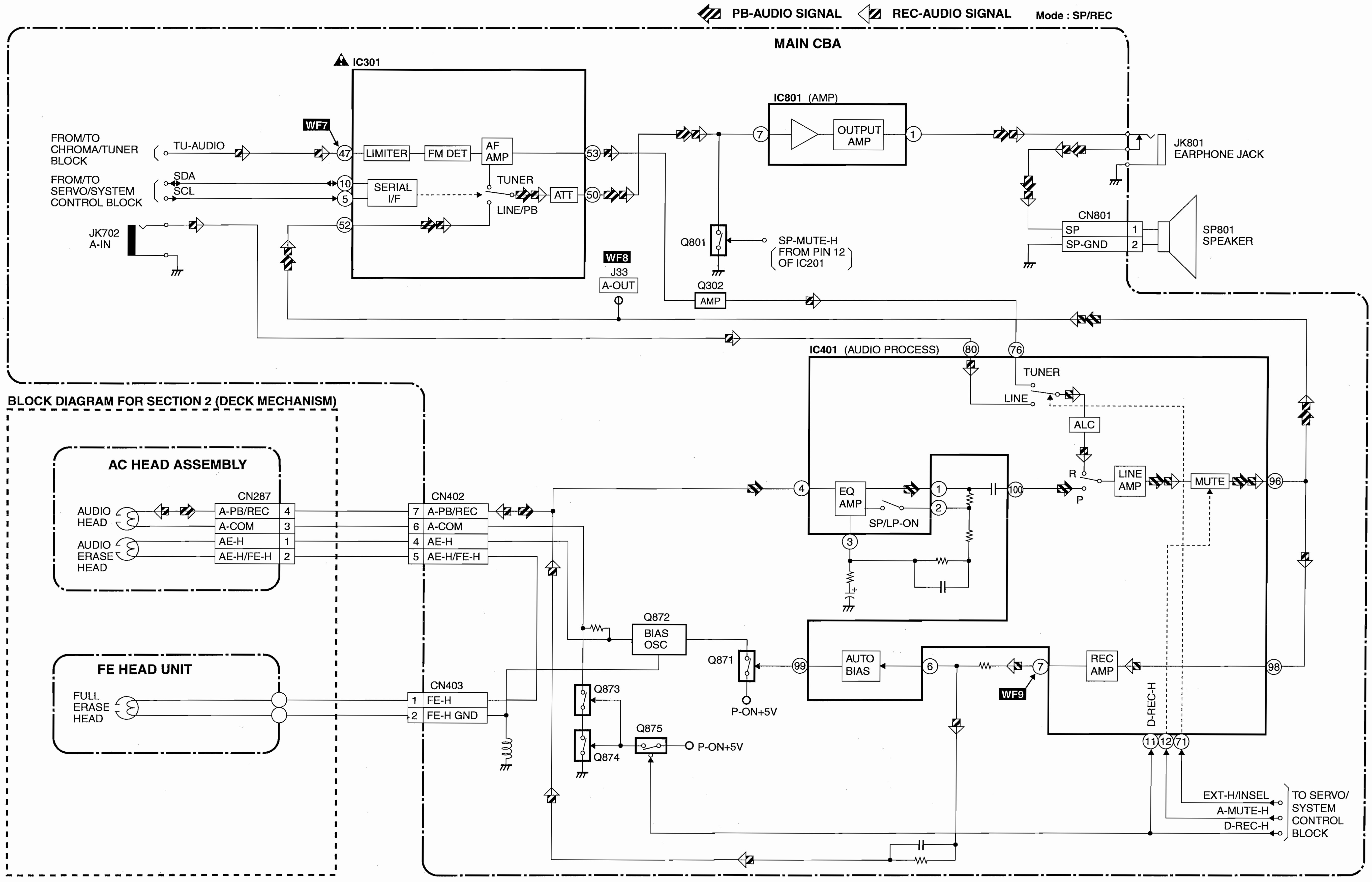
Servo/System Control Block Diagram



Video Block Diagram

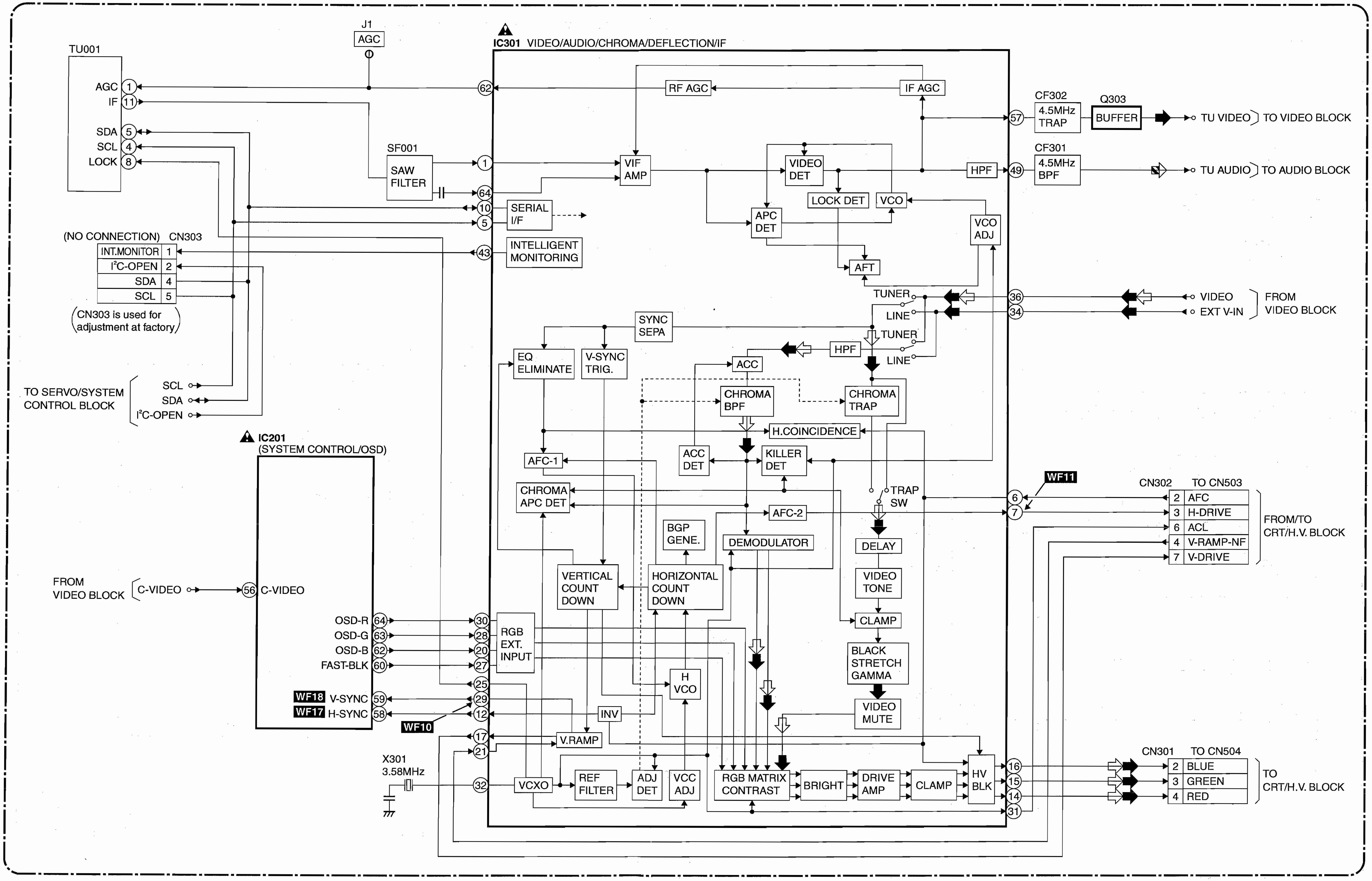


Audio Block Diagram

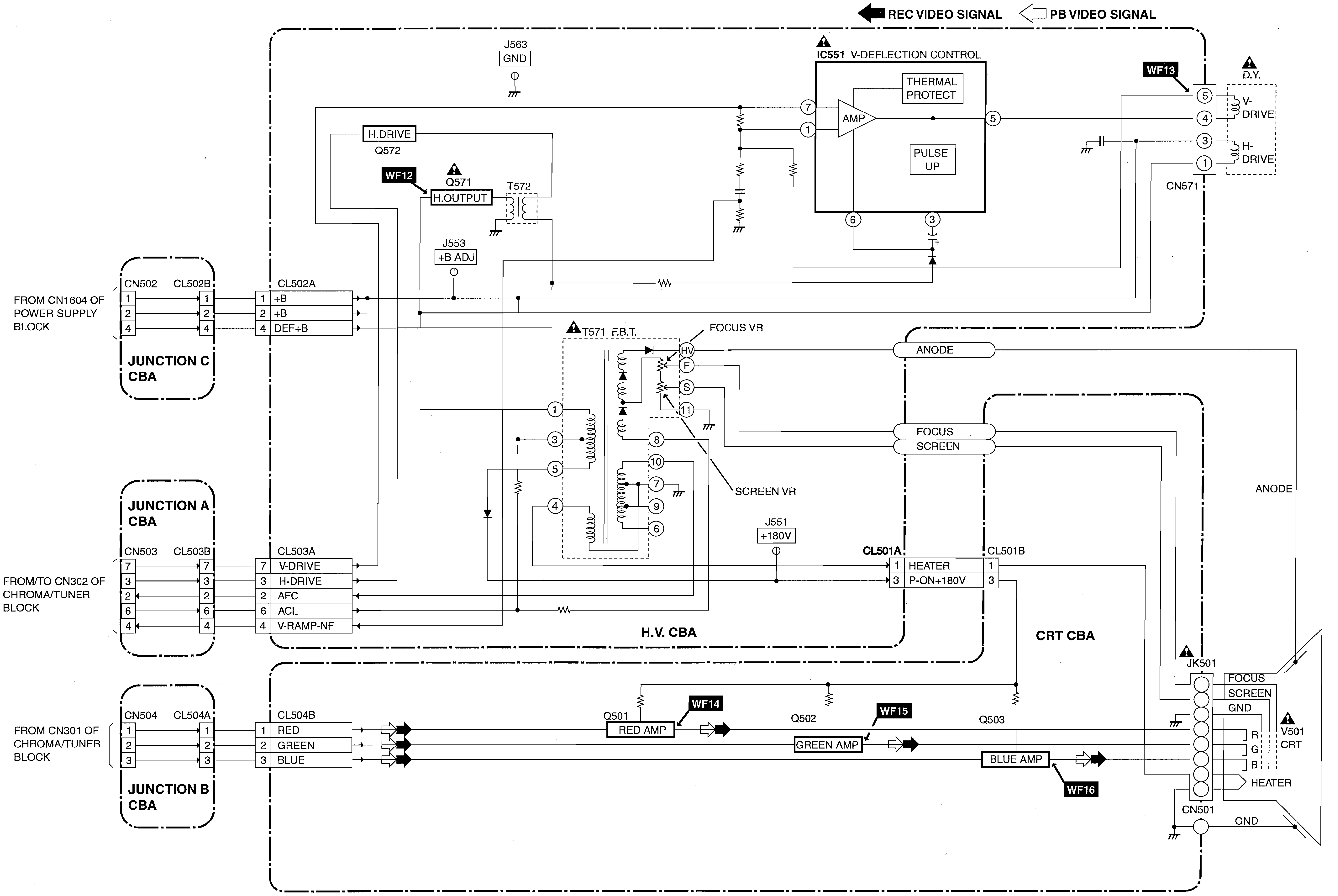


Chroma/Tuner Block Diagram

REC-AUDIO SIGNAL PB-AUDIO SIGNAL REC VIDEO SIGNAL PB VIDEO SIGNAL Mode : SP/REC



CRT/H.V. Block Diagram



Power Supply Block Diagram

Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F1601, F1951) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC(DC) plug to the AC(DC) power supply. Otherwise it may cause some components in the power supply circuit to fail.

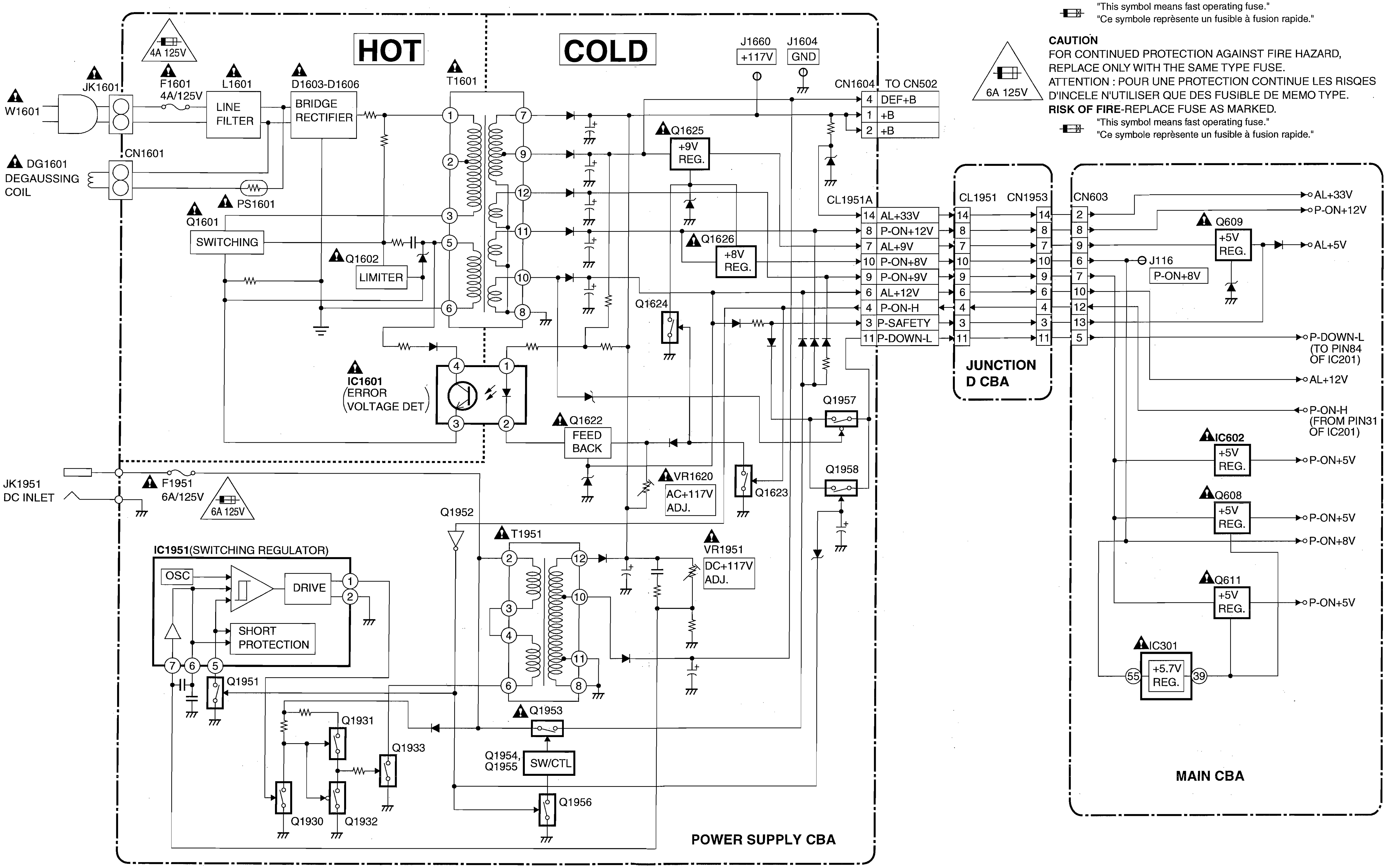
NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

4A 125V

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole reprèsente un fusible à fusion rapide."

6A 125V

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole reprèsente un fusible à fusion rapide."



MECHANICAL TROUBLE INDICATOR

1, Each Malfunction Indication

If the MONITOR is turned ON right after the Mechanical Malfunction occurs or POWER SAFETY/X-RAY is turned ON, display the following character to show Malfunction after the EJECT display.

Immediately preceding Malfunction	Display character
REEL Malfunction	R
DRUM Malfunction	D
CASSETTE LOADING Malfunction	C
TAPE LOADING Malfunction	T
P-SAFETY 1	1
P-SAFETY 2	2
X-RAY	X

Example: If REEL Malfunction

EJECT R

2, Each Malfunction evaluation method

X-RAY protect

If X-RAY port becomes continuously 2.5V or more for 120 msec. (4 times 40 msec. interval), the unit shall immediately turn OFF the POWER/MONITOR and switch over to the Mechanical Malfunction mode with POWER OFF.

(To return from this mode shall become possible only by POWER Key as in the case of the Mechanical Malfunction).

POWER SAFTY

1) POWER SAFETY 1

If P-SAFETY 1 port becomes continuously 2.5V or less for 120 msec. (4 times 40 msec. interval) when MONITOR is ON, the unit shall be assumed to be the Power Malfunction 1 and immediately turn OFF the POWER/MONITOR and switch over the Mechanical Malfunction mode with POWER OFF. (Shall not unload)

(To return from this mode shall become possible only by POWER Key as in the case of the Mechanical Malfunction).

* However the POWER SAFETY 1 function shall be disabled during 500 msec. right after the MONITOR turns ON.

2) POWER SAFETY 2

If P-SAFETY 2 port becomes continuously 2.5V or less for 120 msec. (4 times 40 msec. interval) when P-ON-H port is ON, the unit shall be assumed to be the Power Malfunction 2 and immediately turn OFF the POWER/MONITOR and switch over the Mechanical Malfunction mode with POWER OFF. (Shall not unload)

(To return from this mode shall become possible only by POWER Key as in the case of the Mechanical Malfunction).

* However the POWER SAFETY 2 function shall be disabled during 500 msec. right after the P-ON-H turns ON.

Mechanical Malfunction determination

1) REEL Malfunction detection

Countermeasure for REEL and CAPSTAN motor rotation malfunction (Except CASSETTE LOADING function)

After the Malfunction detection with REEL/CAPSTAN sensor, the unit shall switch over to STOP (B) and be REEL Mechanical Malfunction.

a) If the T-REEL pulse is not impressed after a lapse of 5 sec. at SP, 10 sec. at LP, 14 sec. at SLP, or more in the REEL Rotation Mode like PLAY/REC, FS/RS Mode, and the T-REEL or S-REEL pulse is not impress after a lapse of 4 sec. or more in REEL Rotation Mode of FF/REW, it shall be assumed to stop the rotation and switch over to STOP (B) position, then POWER be turned OFF and the unit be REEL Mechanical Malfunction. (T-REEL and S-REEL for the models on S-REEL and only T-REEL for other models)

b) If the C-FG pulse is not impressed for a lapse of 1 sec. or more during the CAPSTAN MOTOR rotation, it shall be MOTOR Rotation Malfunction (REEL Malfunction).

2) DRUM Malfunction detection

Detect the DRUM rotation at the D-FG input terminal.

If the variation of D-FG input level is not detected for a lapse of 1 sec. or more when D-CONT is "H", it shall be assumed to be Rotation Malfunction and be DRUM Malfunction.

When detect Drum Malfunction, POWER shall be turned OFF after the unit switches over to STEP (B) Mode.

3) Countermeasure for TAPE LOADING Malfunction

Detect the Malfunction with the LOADING Switch.

a) TAPE LOADING Malfunction

If LD-SW does not go to the established position after a lapse of 7 sec. or more from TAPE LOADING or TAPE UNLOADING start, the LOADIONG function shall immediately be stopped and POWER be turned OFF, and inform the Timer about the LOADING Mechanical Malfunction.

b) LD-SW Position Malfunction at each mode

When the unit operates at each mode, even if the LD-SW position changes from the established one in its mode, it keeps the function according to its mode.

4) Countermeasure for CASSETTE LOADING Malfunction

a) CASSETTE IN operating Malfunction

If LD-SW does not go to SB position after a lapse of 5 sec. or more from the CASSETTE insertion start, the unit starts the CASSETTE OUT operation.

After switch over to CASSETTE OUT operation and then a laps of 5 sec. or more from the CASSETTE OUT operation start, if LD-SW does not go to the EJ position or if START Sensor and END Sensor does not turn "ON" at the EJ position, the unit starts again to insert CASSETTE.

(However in S-INH state, the START/END Sensor shall be disabled).

b) CASSETTE OUT operating Malfunction

After a lapse of 5 sec. or more from CASSETTE OUT operation start, if LD-SW does not go to the EJ position or if START Sensor and END Sensor does not turn "ON" at the EJ position, the unit starts to insert CASSETTE.

(However in S-INH state, the START/END Sensor shall be disabled).

When the unit switches over to CASSETTE insertion at CASSETTE IN or CASSETTE OUT Malfunction, if LD-SW does not go to the SB position after a lapse of 5 sec. or more from CASSETTE insertion start, the function shall immediately be stopped and POWER be turned OFF, and the unit be CASSETTE LOADING Malfunction.

c) When POWER is turned ON, if the CL position or GC position cannot be detected after 5 sec. LD-REV operation and 5 sec. LD-FWD operation, the function shall immediately be stopped and POWER be turned OFF, and the unit be CASSETTE LOADING Malfunction.

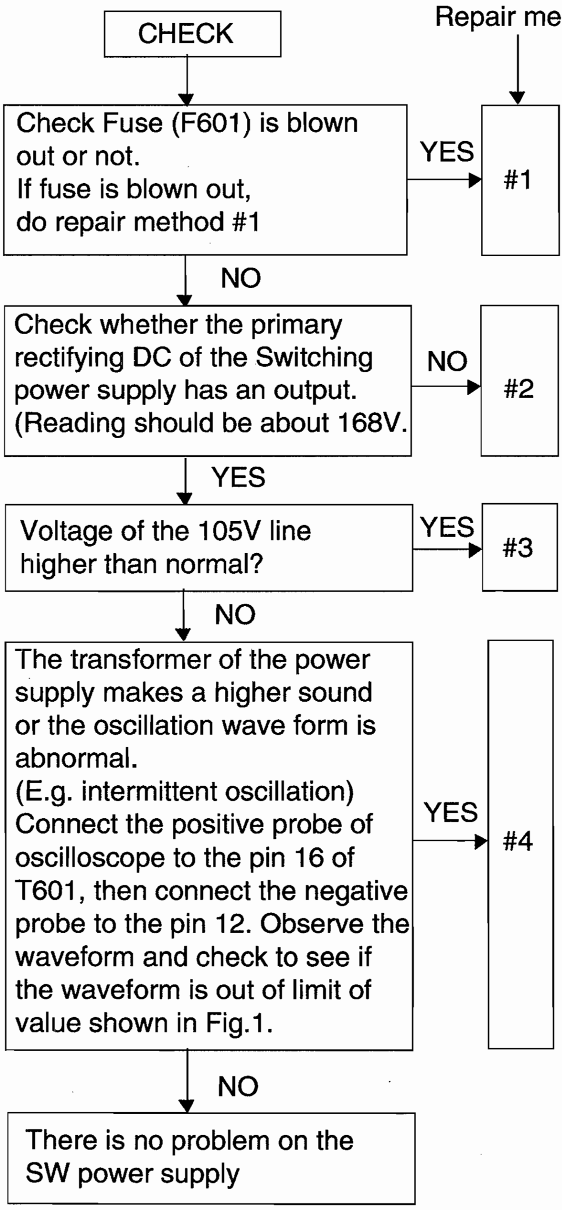
d) When POWER is turned ON without CASSETTE (EJ position) and LD-SW is monitored all the time, if the CL or GC position is detected continuously for 1 sec. or more, the POWER shall be turned OFF and the unit be CASSETTE LOADING Malfunction.

Countermeasure for Mechanical Malfunction

If the unit detects Mechanical Malfunction, turn the POWER OFF. If the unit is Mechanical Malfunction, Key input except POWER key shall be disabled and CASSETTE insertion disabled. When POWER Key is entered, the POWER is turned ON and the unit switches over the EJECT Mode. (Return with POWER ON)

Power Supply Trouble Shooting Guide

It is highly recommended that a variable isolation transformer which can monitor current be used. (Alternatively a variable AC source which monitors current will do). Read directions below before power is added!



Check Fuse (F601) is blown out or not.
If fuse is blown out,
do repair method #1

Check whether the primary rectifying DC of the Switching power supply has an output.
(Reading should be about 168V.

Voltage of the 105V line higher than normal?

The transformer of the power supply makes a higher sound or the oscillation wave form is abnormal.
(E.g. intermittent oscillation)
Connect the positive probe of oscilloscope to the pin 16 of T601, then connect the negative probe to the pin 12. Observe the waveform and check to see if the waveform is out of limit of value shown in Fig.1.

There is no problem on the SW power supply

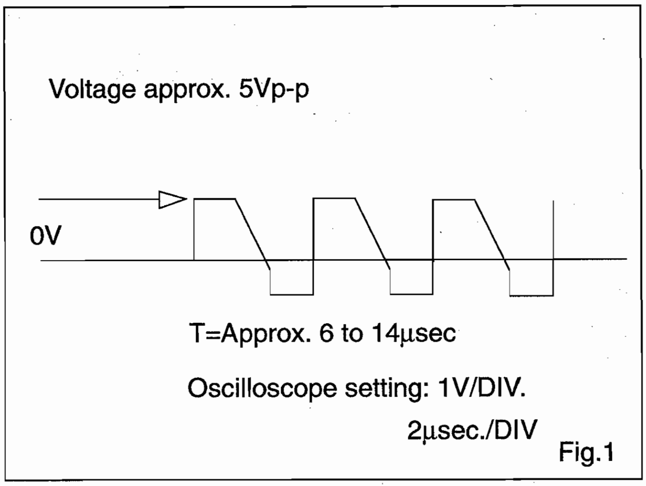


Fig.1

Repair method #1

(Power must be off)

Short circuit in the secondary side. check diode D613, D614, D616, D617 and D618, switching transistor (Q601), control transistor (Q602), diode and resistor replace as necessary.

Disconnect 105V diode (D613), 25V diode (D614), 8V diode (D616), 12V diode (D617, 12V diode (D618) and Check the load continuity of 105V line, 25V line, 8V line, 12V line through a tester (resistance range).

If the tester indicates a lower resistance value around 0 ohm, the line is short-circuited.

Before repairing the switching power supply, find out the short-circuited area of such line and repair it.

If the tester does not indicate any low resistance value (around 0 ohm), no load is short-circuited and there is no problem.

2] Check for any defective parts while the secondary rectifying diodes are disconnected (D613, D614, D616, D617 and D618) perform a diode check in both forward and reverse directions through a tester.

Repair method #2

Check the primary rectifying diodes (D603-D606) as possible problems. Remove the above mentioned parts and check them. Perform check according to the step 1 and 2 of repair method #1 and check for defects following parts, then if necessary replace with factory originals..

R602 is open or not.

Q601, Q602, D607, D608 and D611 are short or not.

Repair method #3

The feedback circuit which is monitored by the output of D613 105V may not work and this may be regarded as a possible cause, remove IC601 (Photo Coupler), diode (D620) and transistor (Q604) check for defects.

Repair method #4

Check control circuitly which is connecting to Pin 2 and 1 of Switching Transformer T601.

SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

Warning

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark " ⚠ " in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Note:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in µF ($P=10^{-6}$µF).
5. All voltages are DC voltages unless otherwise specified.

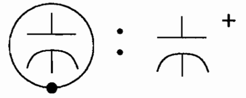
Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20°C	-25~+85°C
(F)	+30 -80%	20°C	-25~+85°C
(SR)	±15%	20°C	-25~+85°C
(Z)	+30 -80%	20°C	-10~+70°C

Capacitors and transistors are represented by the following symbols.

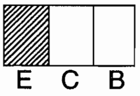
CBA Symbols

(Top View) (Bottom View)



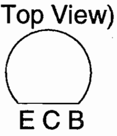
: Electrolytic Capacitor

(Bottom View)



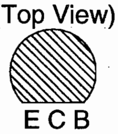
: Transistor or Digital Transistor

(Top View)



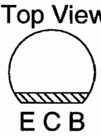
NPN Transistor

(Top View)



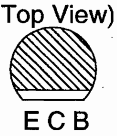
PNP Transistor

(Top View)



NPN Digital Transistor

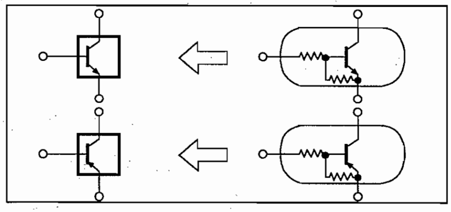
(Top View)



PNP Digital Transistor

Schematic Diagram Symbols

Digital Transistor



LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. **CAUTION:**

FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.

2. **CAUTION:**

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F001) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. **Note:**

(1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.

(2) To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Wire Connectors

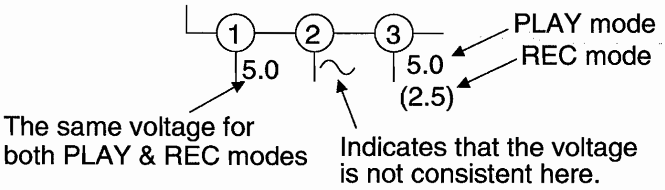
(1) Prefix symbol "CN" means "connector" (can disconnect and reconnect).

(2) Prefix symbol "CL" means "wire-solder holes of the PCB" (wire is soldered directly).

5. Note: Mark "•" is a leadless (chip) component.

6. Mode: SP/REC

7. Voltage indications for PLAY and REC modes on the schematics are as shown below:


1
2
3
5.0
5.0
(2.5)
PLAY mode
REC mode
The same voltage for both PLAY & REC modes
Indicates that the voltage is not consistent here.

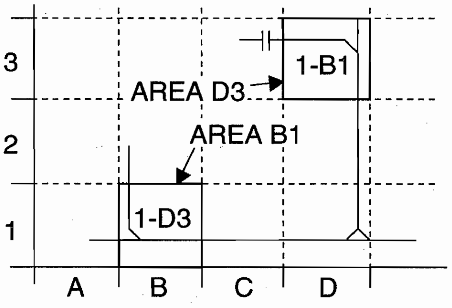
Unit: Volts

8. How to read converged lines

1-D3
Distinction Area
Line Number
(1 to 3 digits)

Examples:

1. "1-D3" means that line number "1" goes to area "D3".
2. "1-B1" means that line number "1" goes to area "B1".



9. Test Point Information

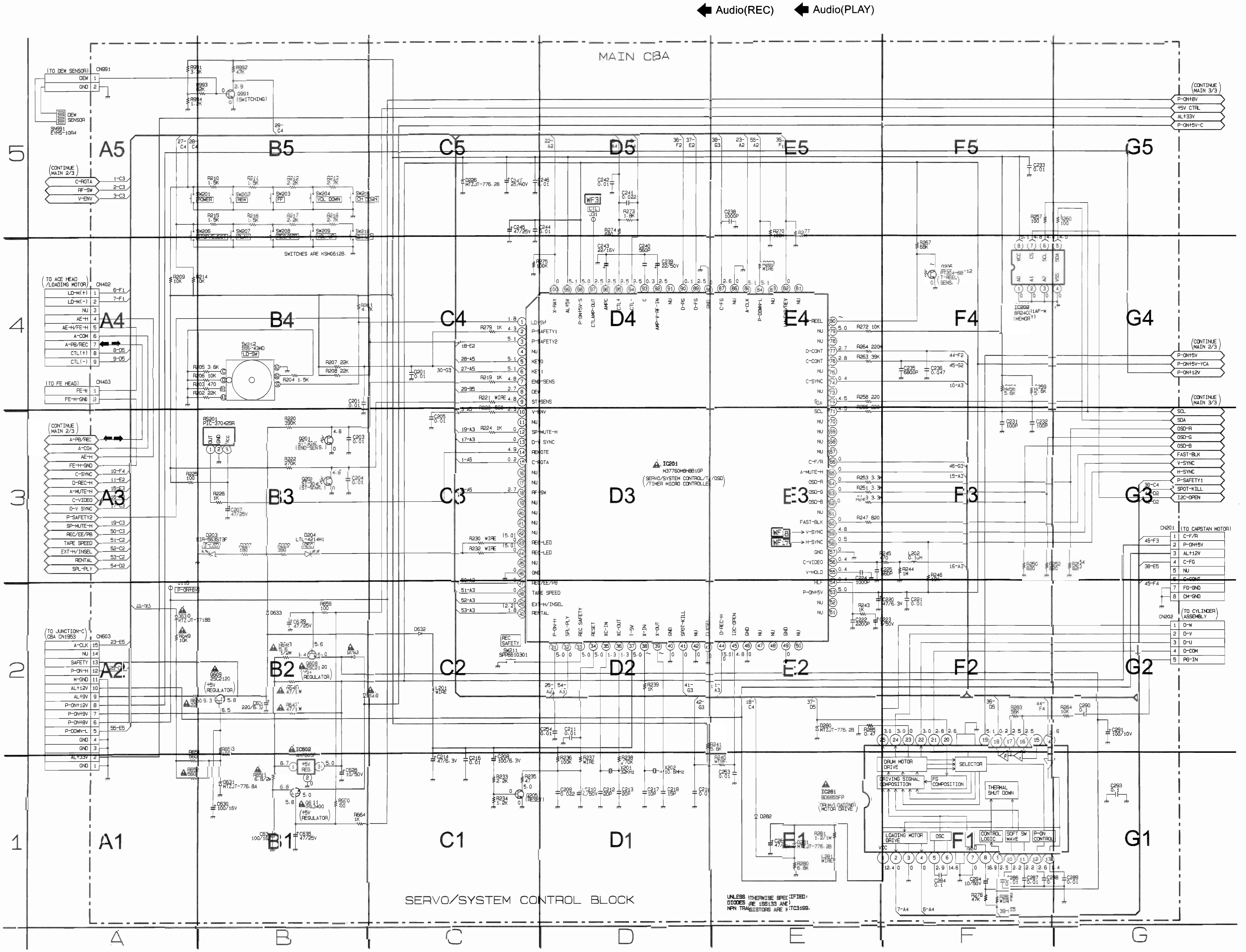
⦶ : Indicates a test point with a jumper wire across a hole in the PCB.

▭→ : Used to indicate a test point with a component lead on foil side.

▨ : Used to indicate a test point with no test pin.

● : Used to indicate a test point with a test pin.

Main 1/3 Schematic Diagram



MAIN 1/3

Ref No.	Position
ICS	
IC201	D-3
IC202	F-4
IC281	E-1
IC602	B-2
TRANSISTORS	
Q201	B-3
Q202	B-3
Q205	C-1
Q206	F-4
Q608	B-2
Q609	B-2
Q611	B-1
Q991	B-5
TEST POINTS	
J31	D-5
J116	A-2
CONNECTORS	
CN201	G-3
CN202	G-2
CN402	A-4
CN403	A-4
CN603	A-2
CN991	A-5

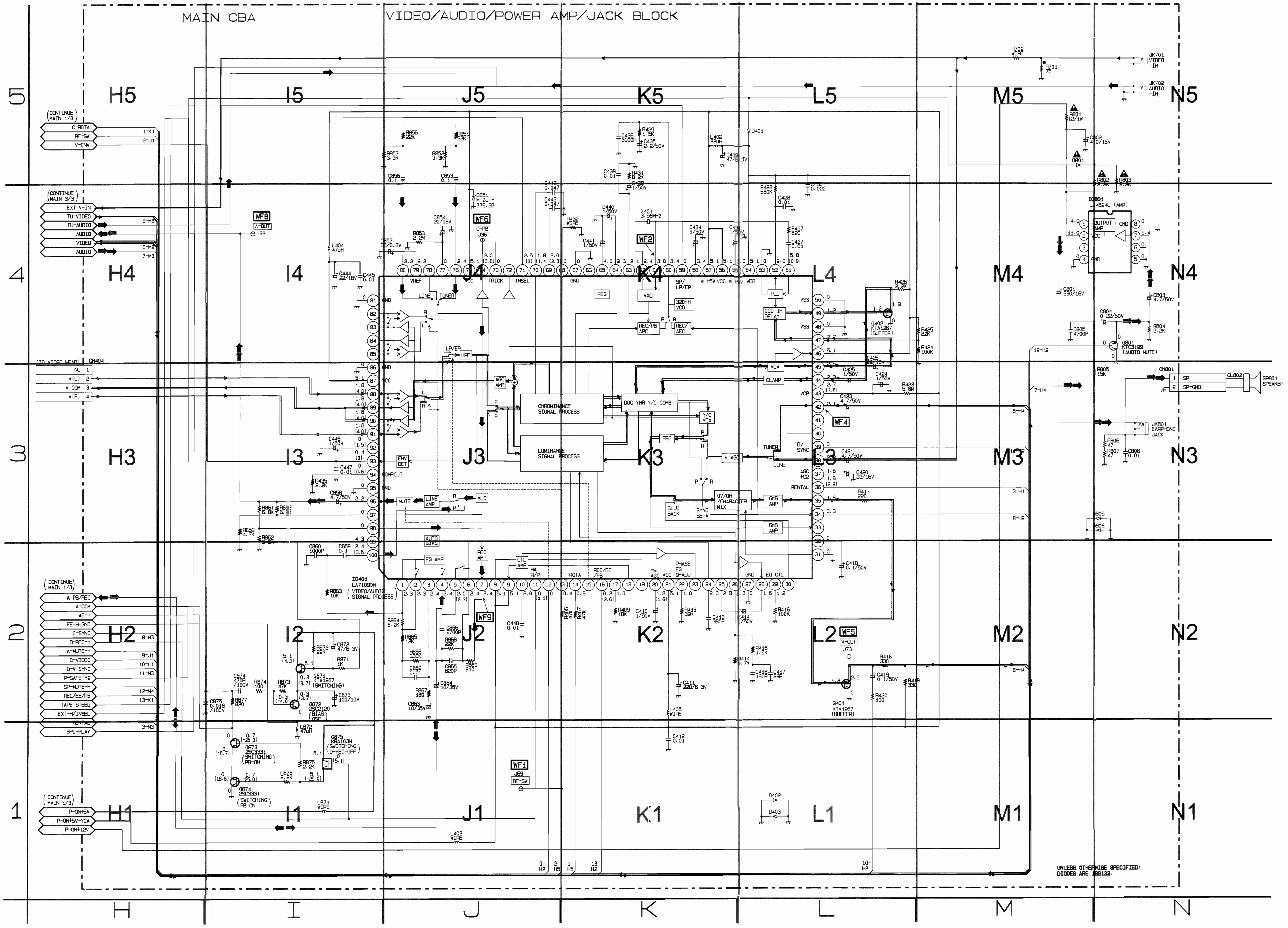
Main 2/3 Schematic Diagram

REC Video Signal

PB Video Signal

REC Audio Signal

PB Audio Signal



MAIN 2/3

Ref No.	Position
ICS	
IC401	I-2
IC801	M-4
TRANSISTORS	
Q401	L-2
Q402	L-4
Q801	N-4
Q871	I-2
Q872	I-2
Q873	I-1
Q874	I-1
Q875	I-1
TEST POINTS	
J33	I-4
J36	J-4
J69	J-1
J73	L-2
CONNECTORS	
CN404	H-4
CN801	N-3

T4259SCM2

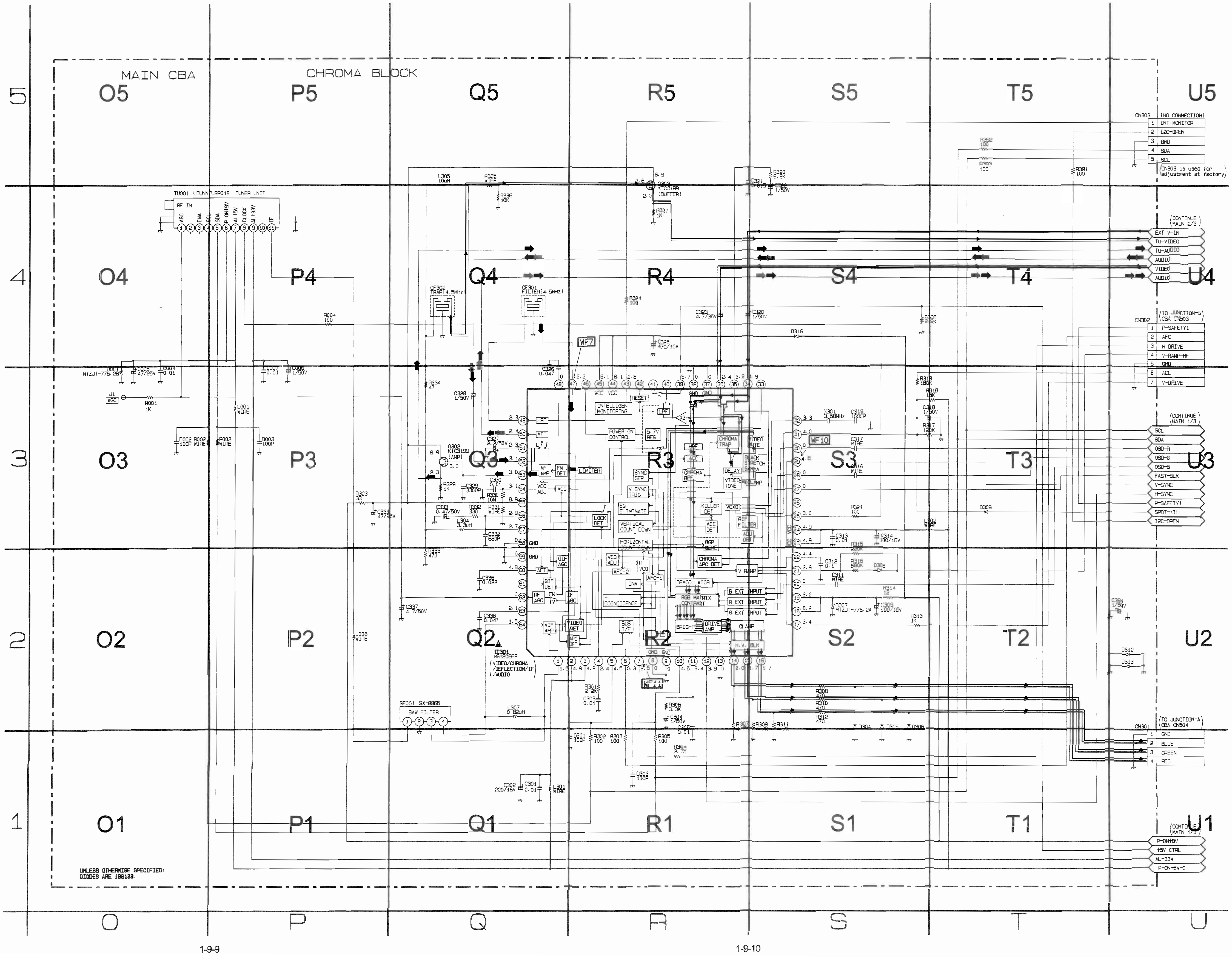
Main 3/3 Schematic Diagram

REC Video Signal

PB Video Signal

REC Audio Signal

PB Audio Signal



MAIN3/3

Ref No.	Position
ICS	
IC301	Q-2
TRANSISTORS	
Q302	Q-3
Q303	R-5
TEST POINTS	
J1	O-3
CONNECTORS	
CN301	U-2
CN302	U-4
CN303	U-5

29048 02FR

Power Supply/H.V./CRT Schematic Diagram

NOTE :
THE VOLTAGE FOR PARTS IN HOT CIRCUIT IS MEASURED USING HOT GND AS A COMMON TERMINAL.

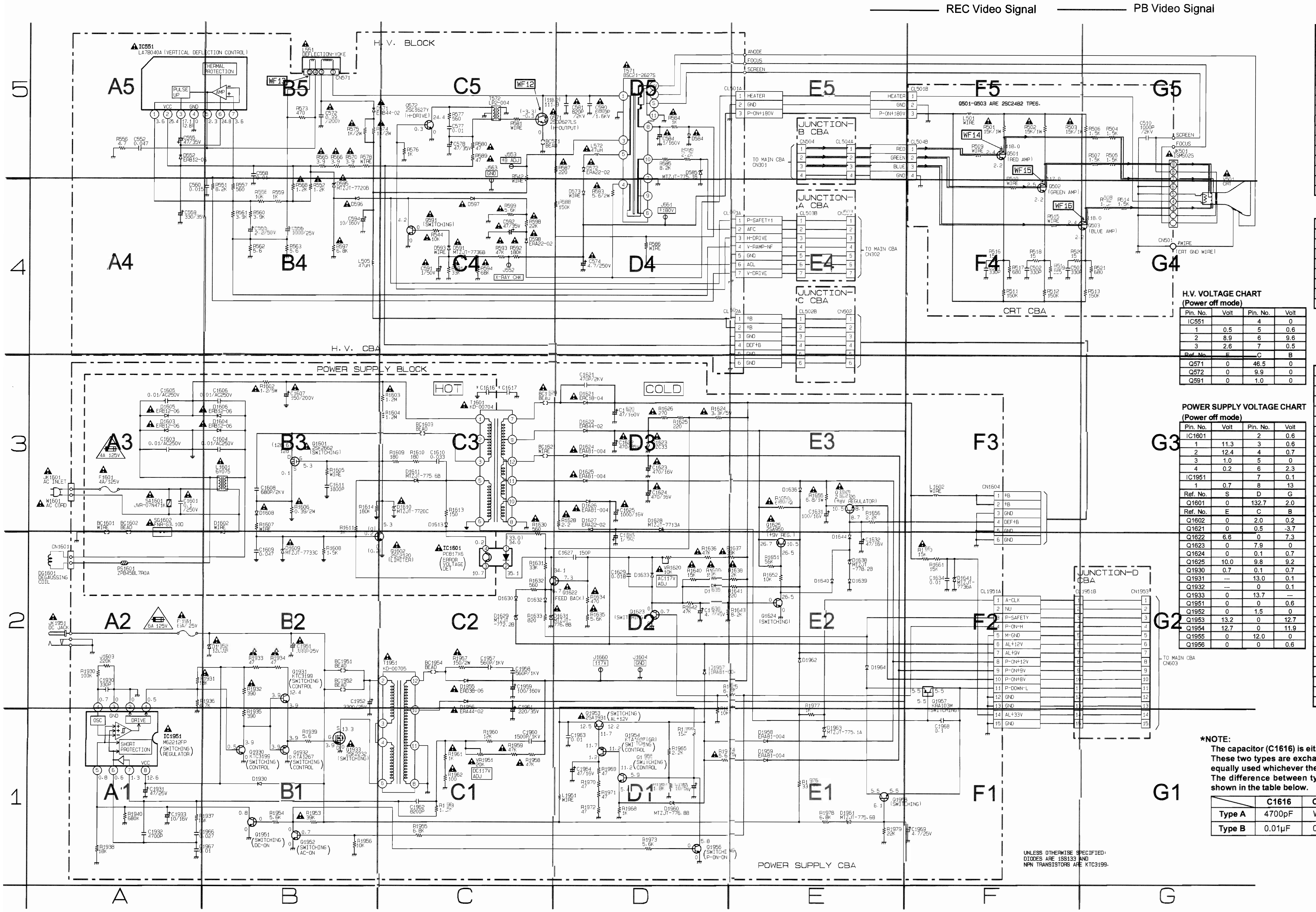
CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F1601, F1951) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC(DC) plug to the AC(DC) power supply.
Otherwise it may cause some components in the power supply circuit to fail.

4A/125V

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

6A/125V

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."



H.V.

Ref No.	Position
ICS	
IC551	A-5
TRANSISTORS	
Q571	C-5
Q572	C-5
Q591	C-4
TEST POINTS	
J551	D-4
J552	C-4
J553	C-5
J563	C-5
CONNECTORS	
CL501A	D-5
CL502A	D-4
CL503A	D-4
CN571	B-5

CRT

Ref No.	Position
TRANSISTORS	
Q501	F-5
Q502	F-4
Q503	G-4
CONNECTORS	
CN501	G-4
CL501B	F-5
CL504B	F-5

H.V. VOLTAGE CHART
(Power off mode)

Pin. No.	Volt	Pin. No.	Volt
IC551		4	0
1	0.5	5	0.6
2	8.9	6	9.6
3	2.6	7	0.5
Ref. No.	E	C	B
Q571	0	46.5	0
Q572	0	9.9	0
Q591	0	1.0	0

POWER SUPPLY

Ref No.	Position
ICS	
IC1601	C-2
IC1951	A-1
TRANSISTORS	
Q1601	B-3
Q1602	C-2
Q1622	D-2
Q1623	D-2
Q1624	E-2
Q1625	E-3
Q1626	E-3
Q1930	B-1
Q1931	B-2
Q1932	B-1
Q1933	B-1
Q1951	B-1
Q1952	B-1
Q1953	D-1
Q1954	D-1
Q1955	D-1
Q1956	D-1
Q1957	F-2
Q1958	E-1
TEST POINTS	
J1604	D-2
J1660	D-2
CONNECTORS	
CN1601	A-2
CN1604	F-3
CL1951A	F-2
ADJUSTMENT	
VR1620	D-2
VR1951	C-1

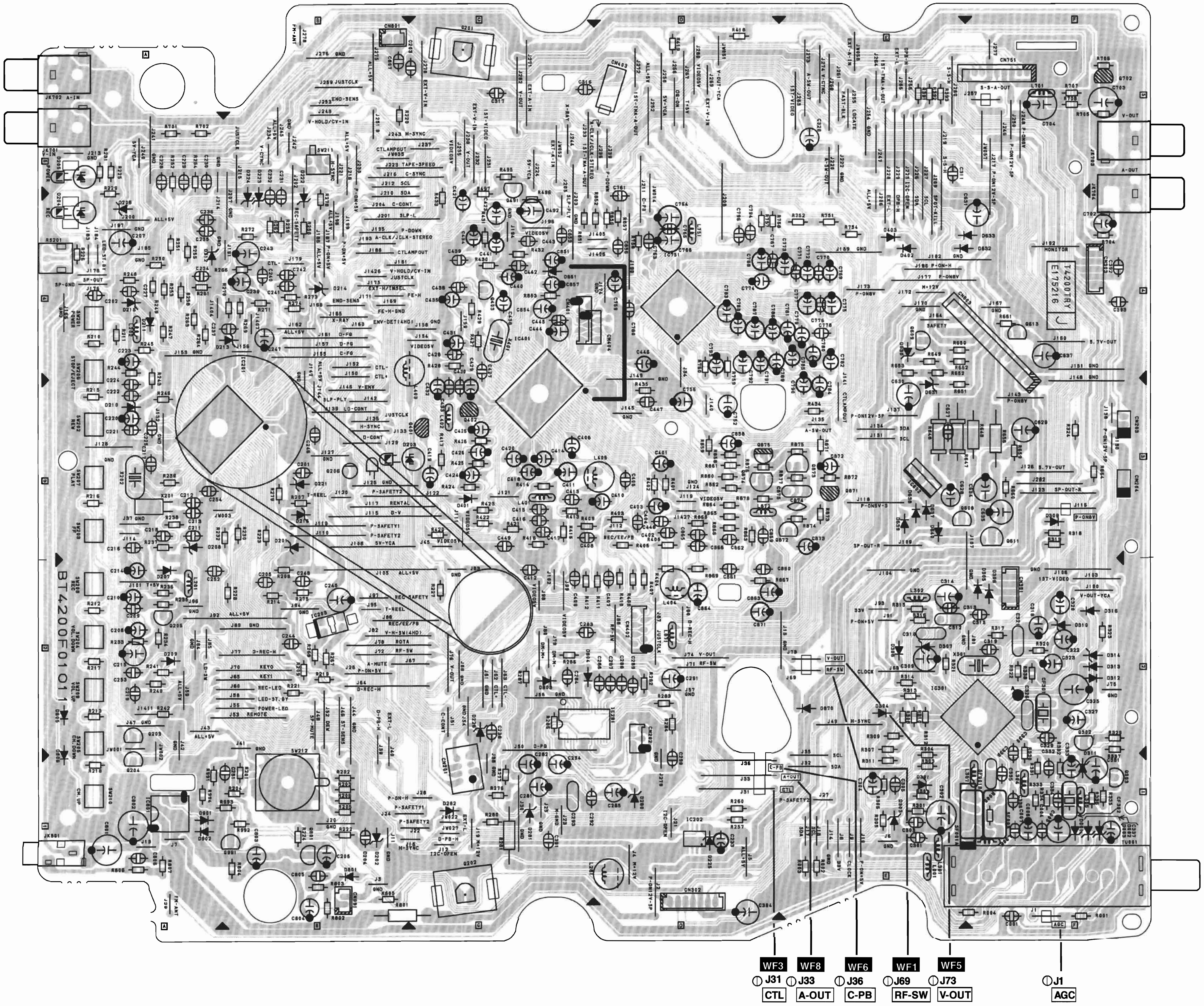
POWER SUPPLY VOLTAGE CHART
(Power off mode)

Pin. No.	Volt	Pin. No.	Volt
IC1601		2	0.6
1	11.3	3	0.6
2	12.4	4	0.7
3	1.0	5	0
4	0.2	6	2.3
IC1951		7	0.1
1	0.7	8	13
Ref. No.	S	D	G
Q1601	0	132.7	2.0
Ref. No.	E	C	B
Q1602	0	2.0	0.2
Q1621	0	0.5	-3.7
Q1622	6.6	0	7.3
Q1623	0	7.9	0
Q1624	0	0.1	0.7
Q1625	10.0	9.8	9.2
Q1930	0.7	0.1	0.7
Q1931	---	13.0	0.1
Q1932	---	0	0.1
Q1933	0	13.7	---
Q1951	0	0	0.6
Q1952	0	1.5	0
Q1953	13.2	0	12.7
Q1954	12.7	0	11.9
Q1955	0	12.0	0
Q1956	0	0	0.6

***NOTE:**
The capacitor (C1616) is either type A or type B. These two types are exchangeable and can be equally used whichever the model is. The difference between type A and type B is shown in the table below.

	C1616	C1617
Type A	4700pF	WIRE
Type B	0.01μF	0.01μF

Main CBA Top View

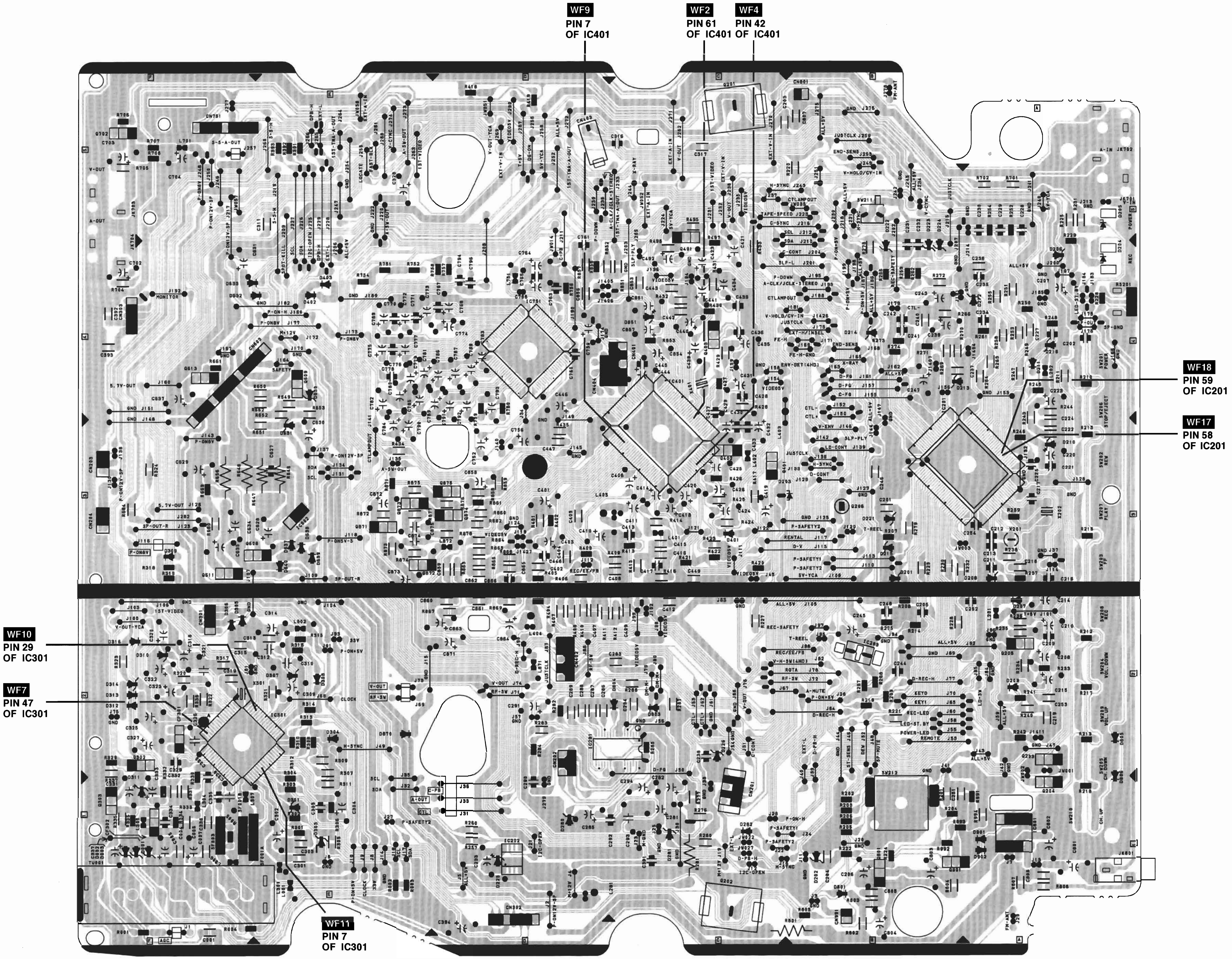


MAIN.CBA

Ref No.	Position
ICS	
IC201	B-4
IC202	D-1
IC281	D-2
IC301	E-2
IC401	C-4
IC602	E-3
IC801	A-1
TRANSISTORS	
Q201	C-5
Q202	C-1
Q205	A-2
Q206	B-3
Q302	F-2
Q303	F-1
Q401	C-3
Q402	C-3
Q608	E-3
Q609	E-4
Q611	F-3
Q801	B-1
Q871	E-3
Q872	D-3
Q873	E-3
Q874	D-3
Q875	D-3
Q991	B-1
TEST POINTS	
J1	F-1
J31	D-1
J33	D-1
J36	D-1
J69	E-2
J73	E-2
J116	F-3
CONNECTORS	
CN201	C-1
CN202	D-2
CN301	F-2
CN302	D-1
CN303	F-4
CN402	D-2
CN403	D-5
CN404	D-4
CN603	E-4
CN801	B-5
CN991	B-1

29048 03 F/R

Main CBA Bottom View



Power Supply CBA Top View

CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F1601, F1951) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC(DC) plug to the AC(DC) power supply. Otherwise it may cause some components in the power supply circuit to fail.

4A/125V

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole reprèsente un fusible à fusion rapide."

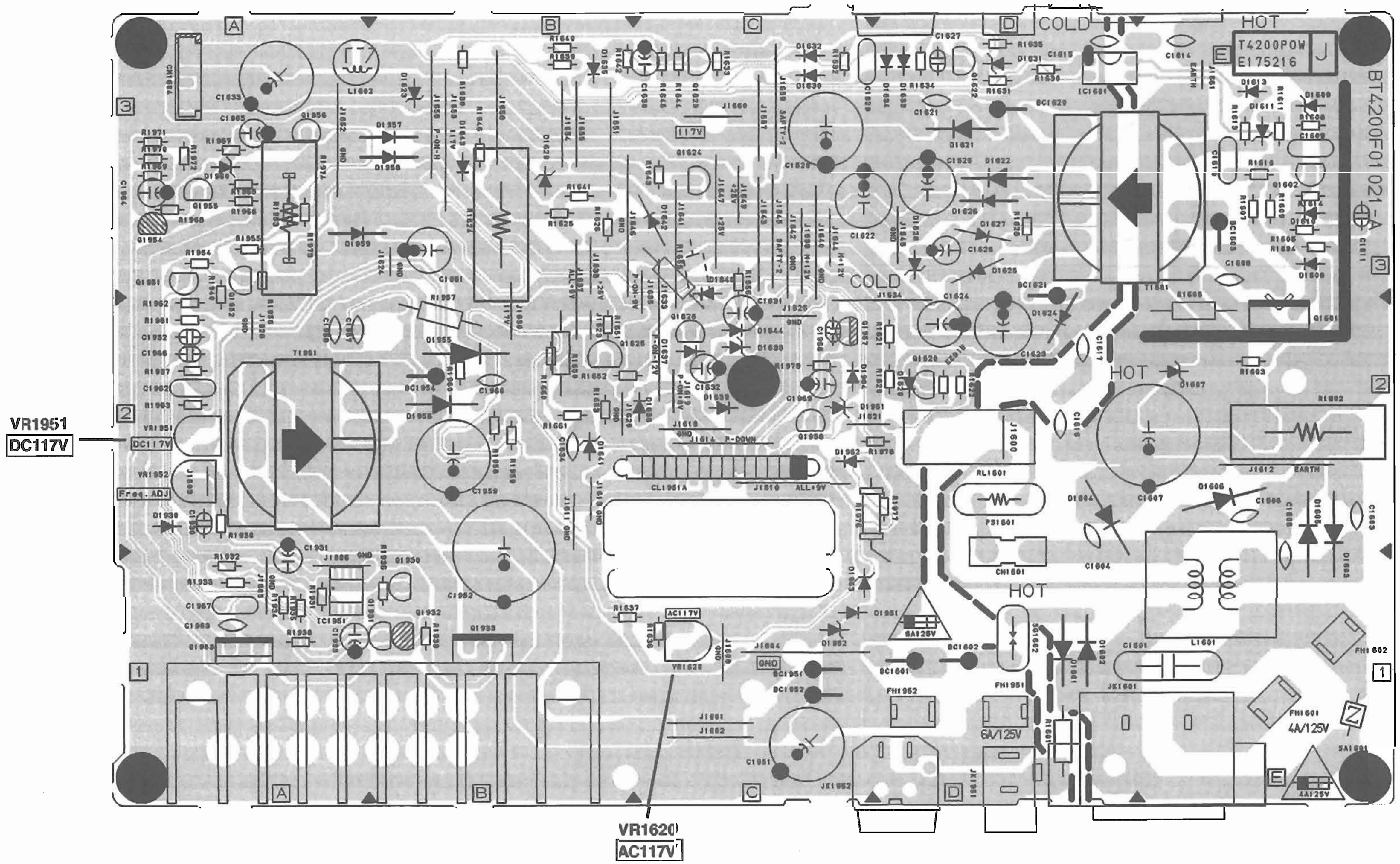
NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

6A/125V

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole reprèsente un fusible à fusion rapide."

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

29048 04 F/R



POWER SUPPLY.CBA

Ref No.	Position
ICS	
IC1601	D-3
IC1951	A-1
TRANSISTORS	
Q1601	E-2
Q1602	E-3
Q1622	D-3
Q1623	C-3
Q1624	C-3
Q1625	B-2
Q1626	C-2
Q1930	B-1
Q1931	B-1
Q1932	B-1
Q1933	B-1
Q1951	A-3
Q1952	A-3
Q1953	A-1
Q1954	A-3
Q1955	A-3
Q1956	A-3
Q1957	C-2
Q1958	C-2
TEST POINTS	
J1604	C-1
J1660	C-3
CONNECTORS	
CN1601	D-1
CN1604	A-3
CL1951A	C-2

Power Supply CBA Bottom View

CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F1601, F1951) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC(DC) plug to the AC(DC) power supply.
Otherwise it may cause some components in the power supply circuit to fail.

4A/125V

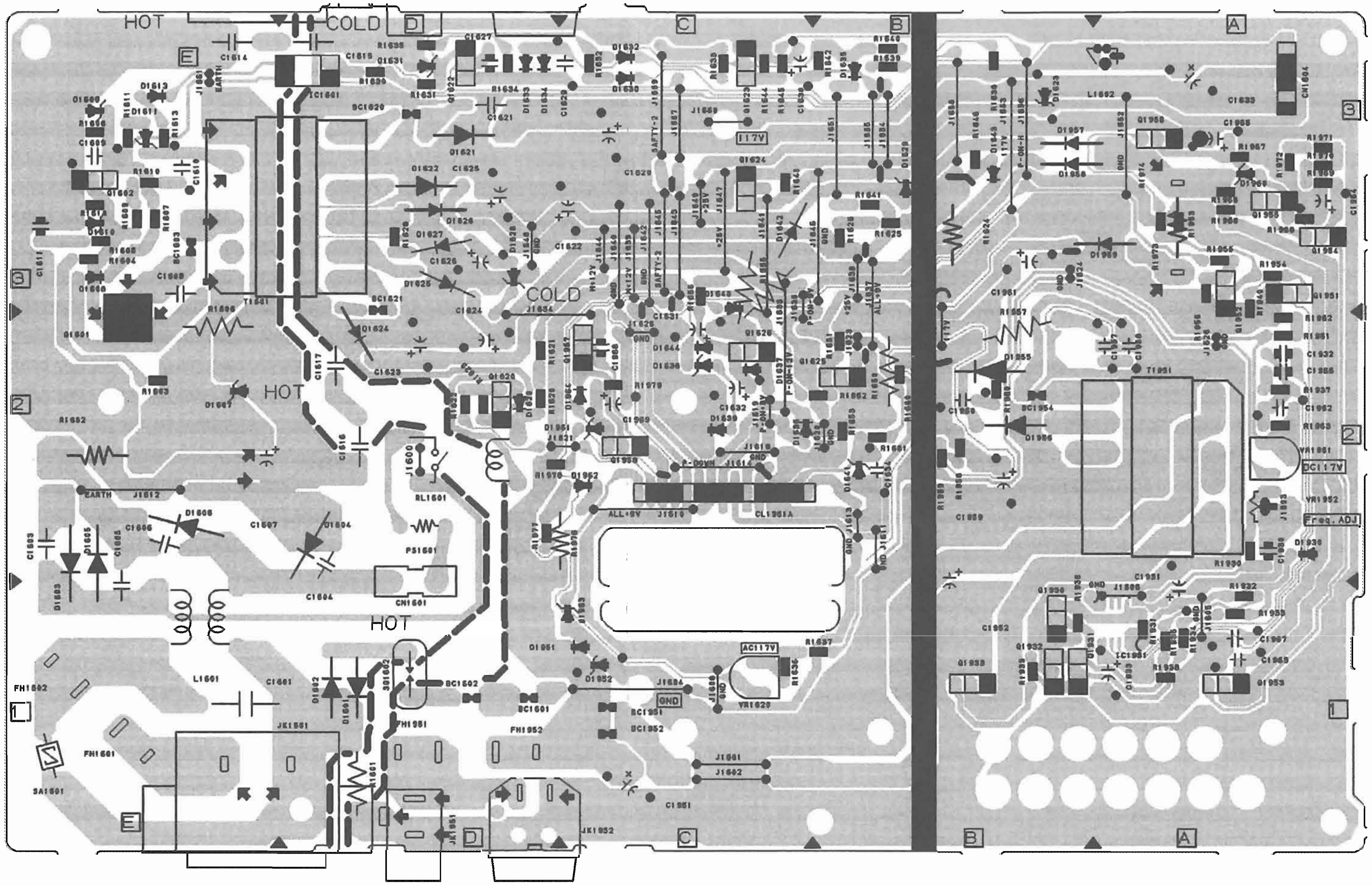
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole reprèsente un fusible à fusion rapide."

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

6A/125V

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole reprèsente un fusible à fusion rapide."

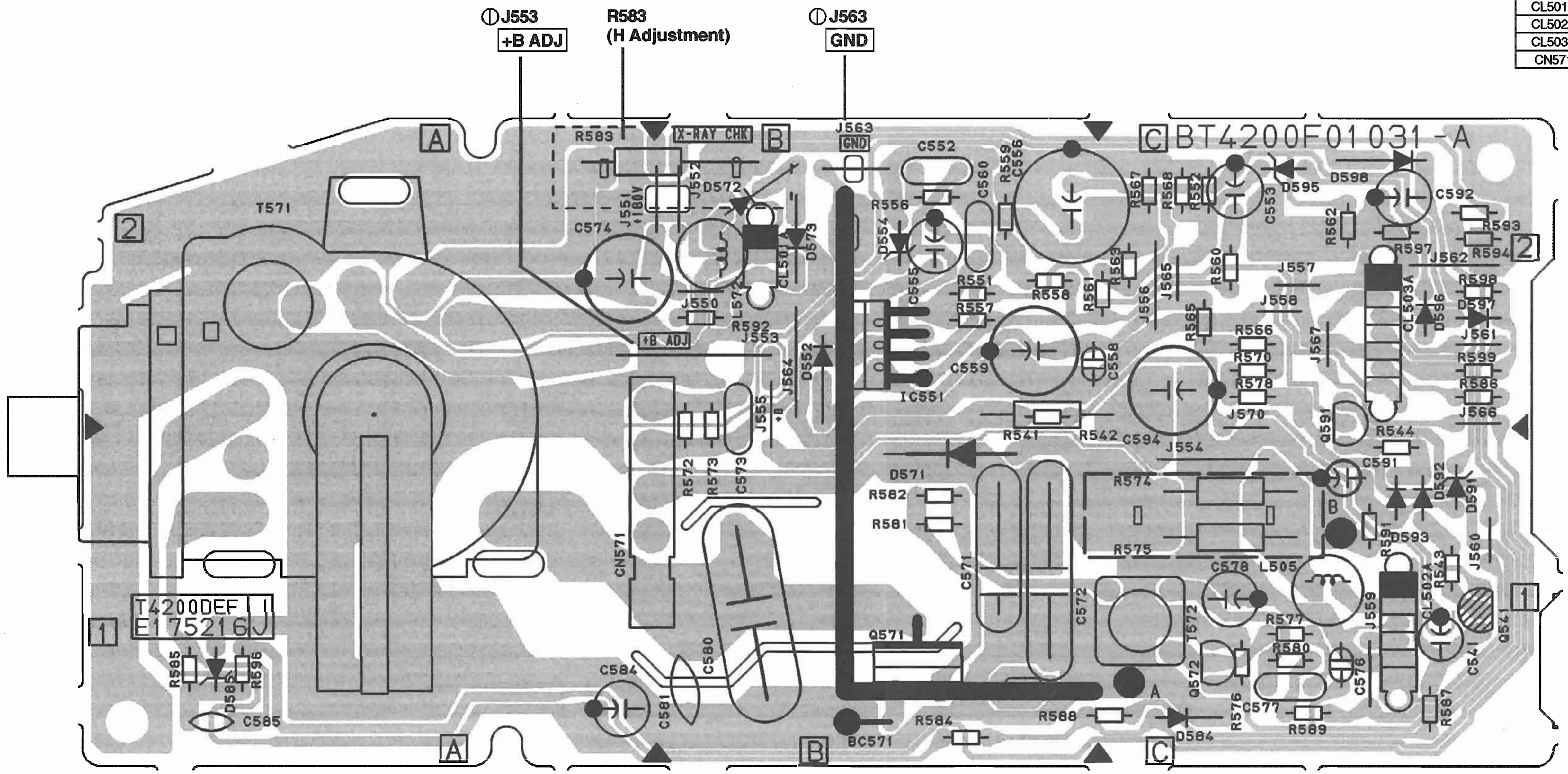
BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT, AN ISOLATION TRANSFORMER MUST BE USED. ALSO, IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY, WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT, A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.



H.V. CBA Top View

H.V.CBA

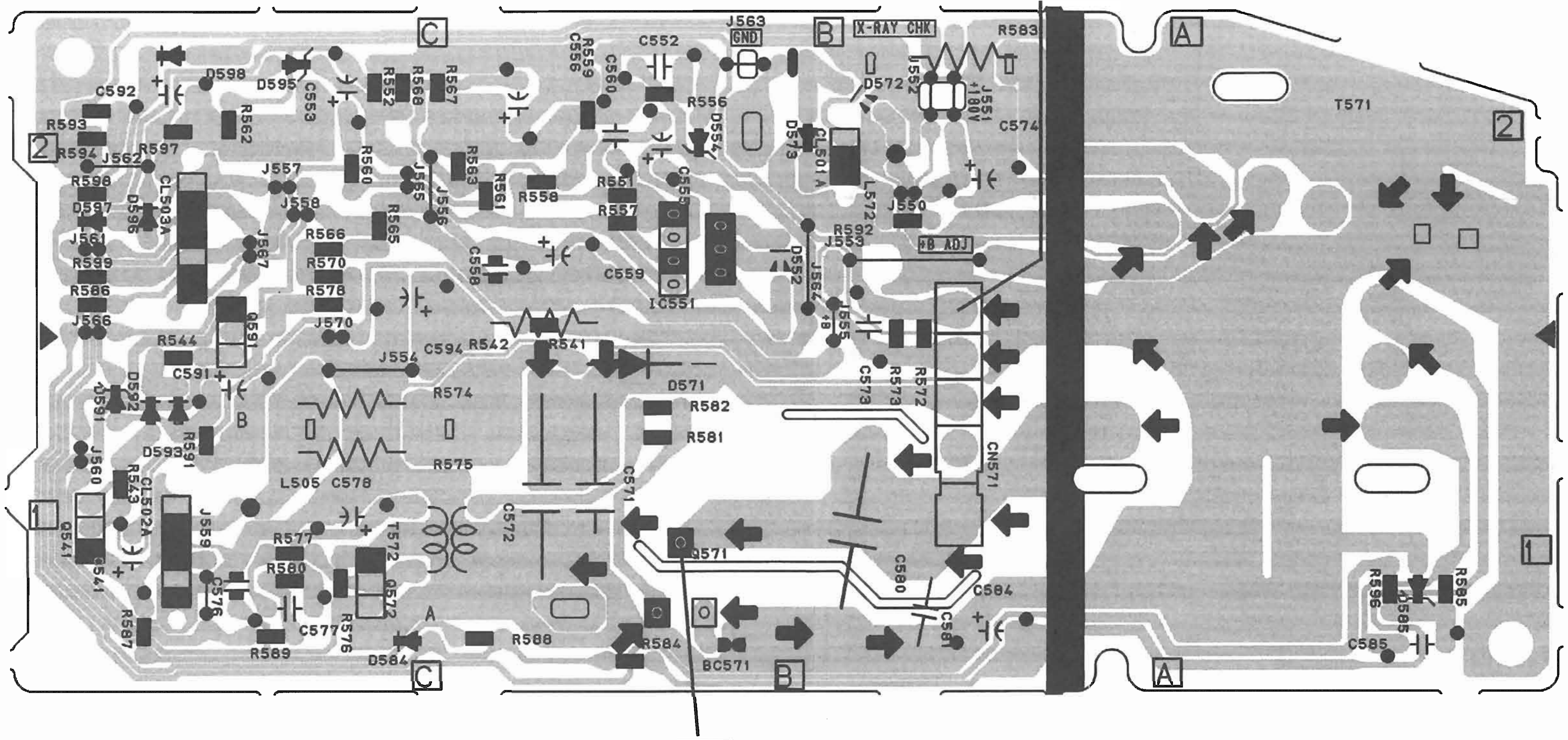
Ref No.	Position
ICS	
IC551	B-2
TRANSISTORS	
Q571	B-1
Q572	C-2
Q591	C-1
TEST POINTS	
J551	A-2
J552	B-2
J553	B-2
J563	B-2
CONNECTORS	
CL501A	B-2
CL502A	C-1
CL503A	C-2
CN571	A-1



29048 05 F/R

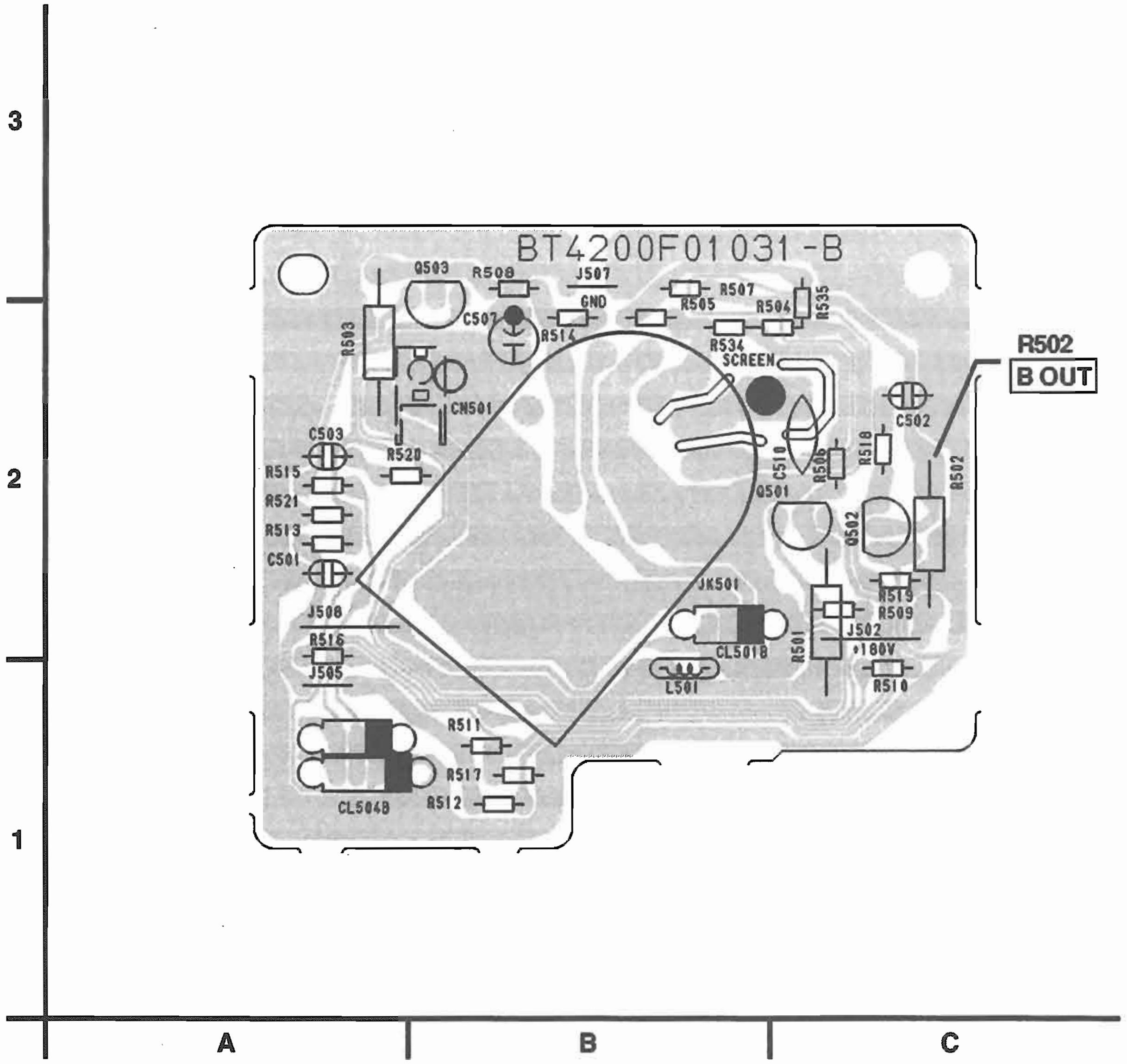
H.V. CBA Bottom View

WF13
PIN 5 OF
CN571

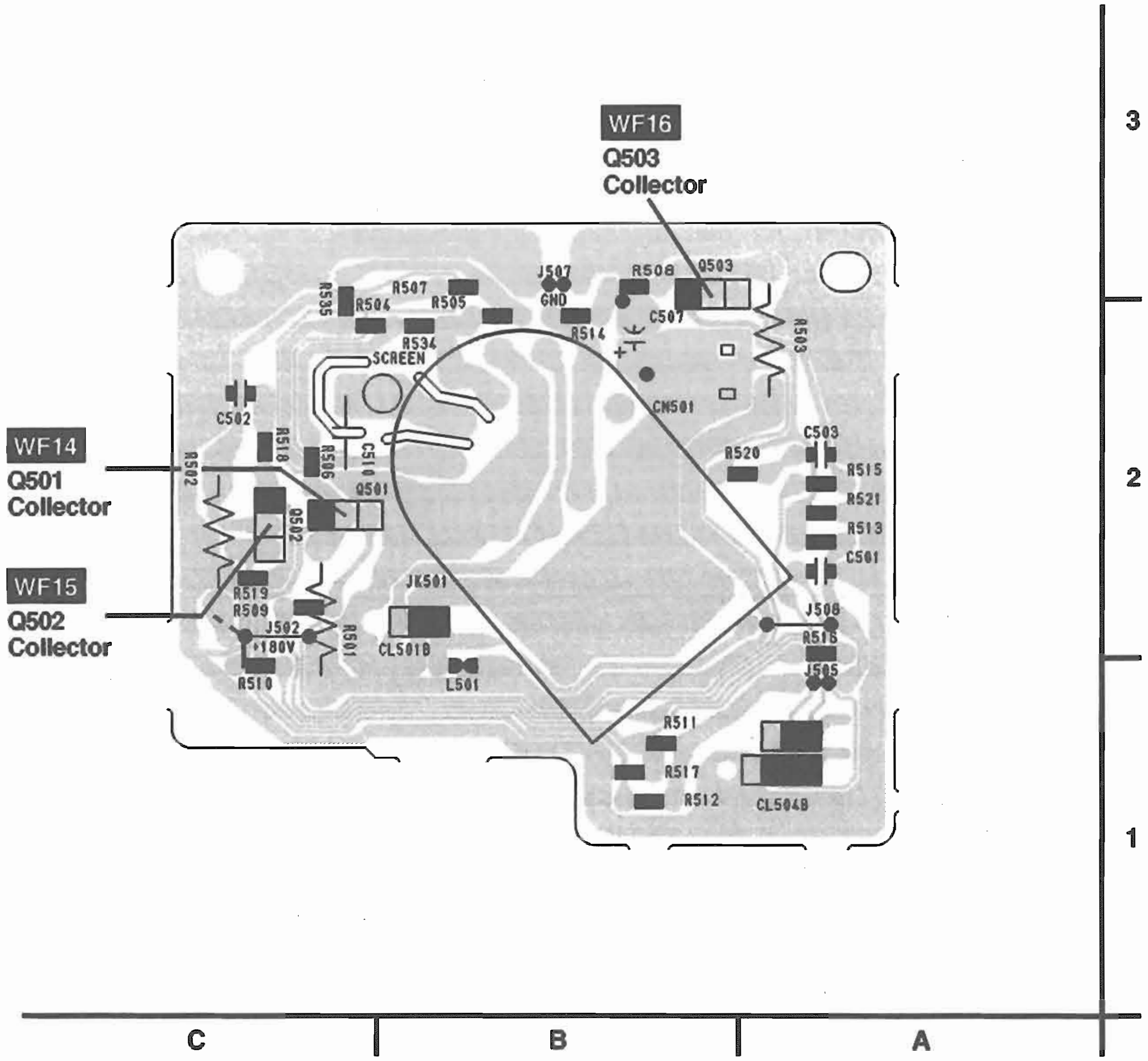


WF12
Q571
COLLECTOR

CRT CBA Top View



CRT CBA Bottom View



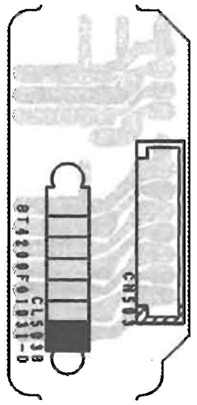
BT4200F01031-B

CRT.CBA

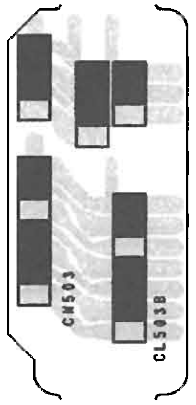
Ref No.	Position
TRANSISTORS	
Q501	B-2
Q502	C-2
Q503	B-3
CONNECTORS	
CN501	B-2
CL501B	B-2
CL504B	A-1

29048 06 F/R

Junction A CBA
Top View

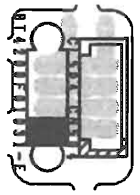


Junction A CBA
Bottom View

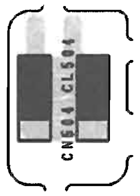


BT4200F01031-D

Junction B CBA
Top View

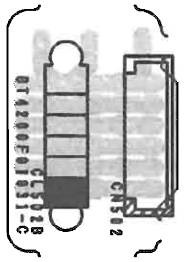


Junction B CBA
Bottom View

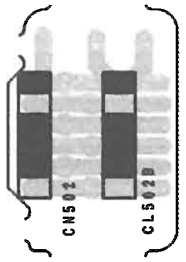


BT4200F01031-E

Junction C CBA
Top View

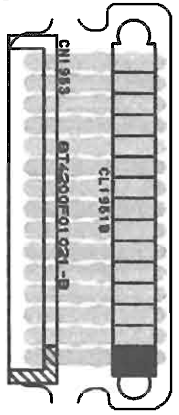


Junction C CBA
Bottom View

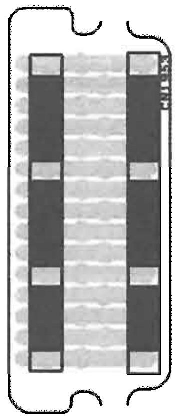


BT4200F01031-C

Junction D CBA
Top View



Junction D CBA
Bottom View



BT4200F01021-B

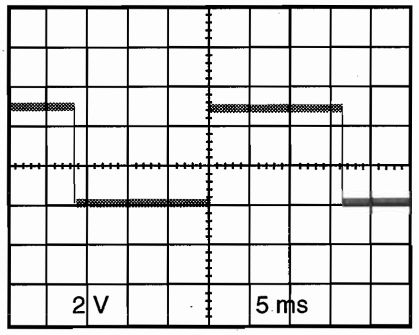
5
4
3
2
1

A B C D

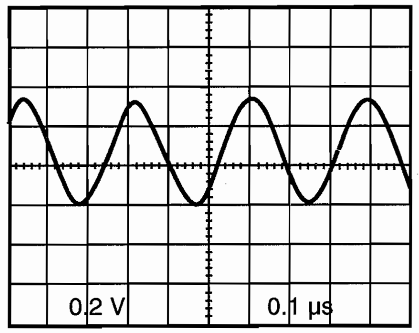
WAVEFORMS

WAVEFORM NOTES

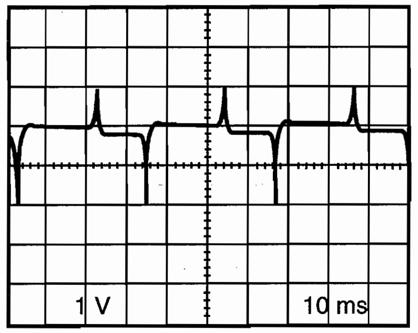
INPUT: NTSC COLOR BAR SIGNAL
OTHER CONTROLS : CENTER POSITION
VOLTAGES SHOWN ARE RANGE OF
OSCILLOSCOPE SETTING



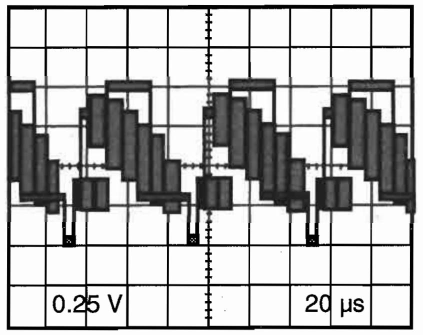
WF1 MAIN 2/3 SCHEMATIC DIAGRAM
TP005 RF SW



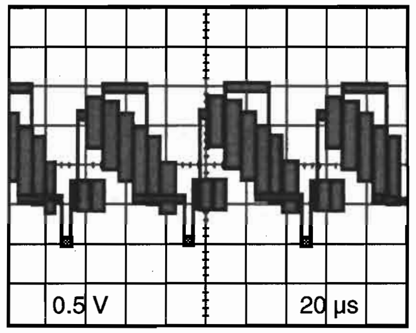
WF2 MAIN 2/3 SCHEMATIC DIAGRAM
IC401 PIN 67



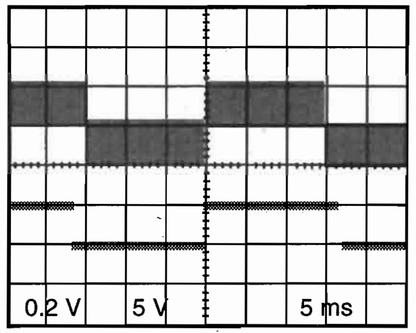
WF3 MAIN 1/3 SCHEMATIC DIAGRAM
TP008 CTL



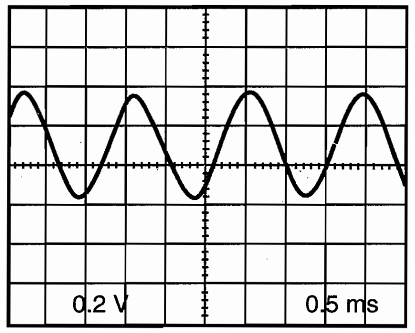
WF4 MAIN 2/3 SCHEMATIC DIAGRAM
IC401 PIN 59



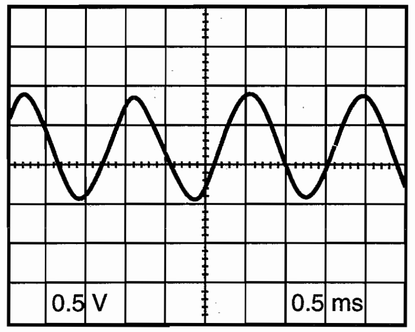
WF5 MAIN 2/3 SCHEMATIC DIAGRAM
TP001 V-OUT



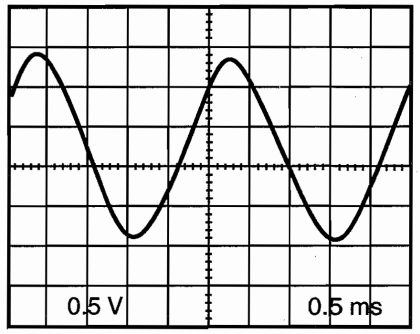
Upper: WF6 Lower: WF1
MAIN 2/3 SCHEMATIC DIAGRAM TP004 C-PB



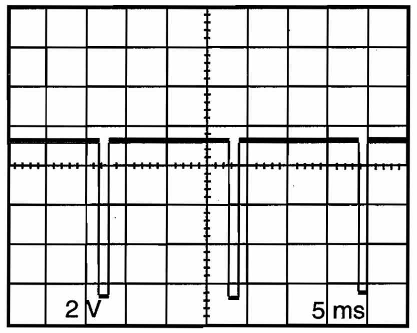
WF7 MAIN 3/3 SCHEMATIC DIAGRAM
IC301 PIN 47



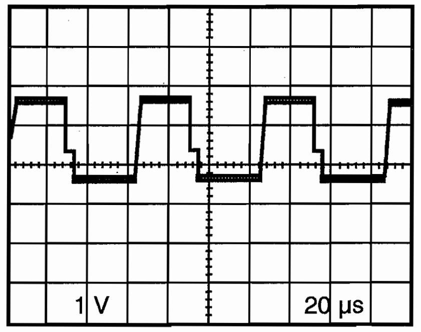
WF8 MAIN 2/3 SCHEMATIC DIAGRAM
TP003 A-OUT



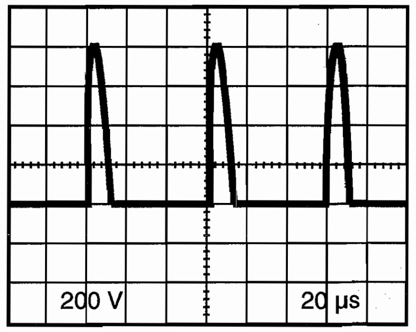
WF9 MAIN 2/3 SCHEMATIC DIAGRAM
IC401 PIN 2



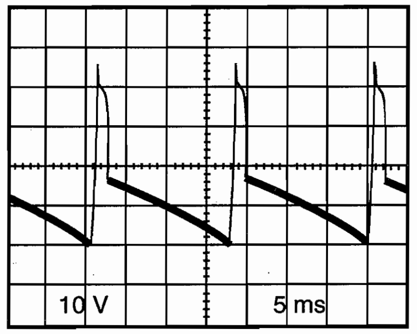
WF10 MAIN 3/3 SCHEMATIC DIAGRAM
IC301 PIN 29



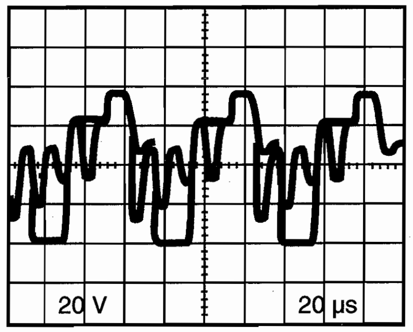
WF11 MAIN 3/3 SCHEMATIC DIAGRAM
IC301 PIN 7



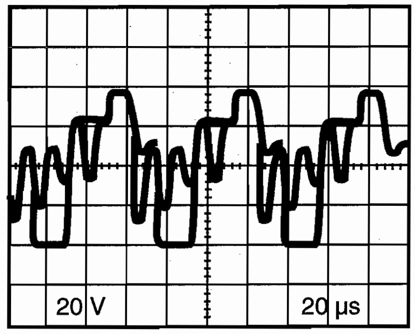
WF12 H/V SCHEMATIC DIAGRAM
Q571 COLLECTOR



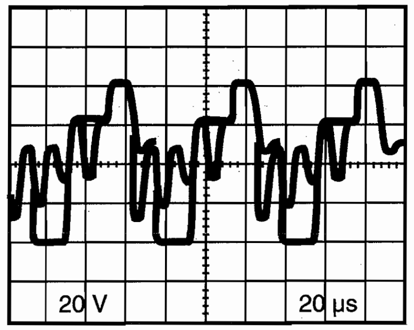
WF13 H/V SCHEMATIC DIAGRAM
CN571 PIN 5



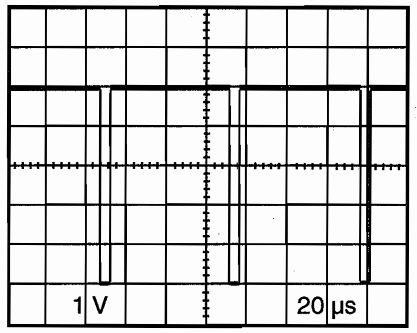
WF14 CRT SCHEMATIC DIAGRAM
Q501 COLLECTOR



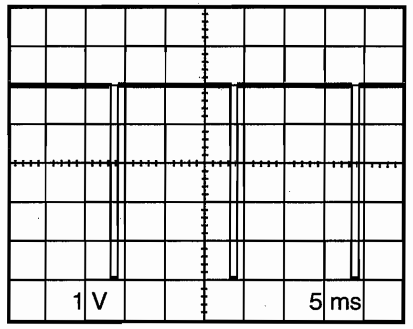
WF15 CRT SCHEMATIC DIAGRAM
Q502 COLLECTOR



WF16 CRT SCHEMATIC DIAGRAM
Q503 COLLECTOR

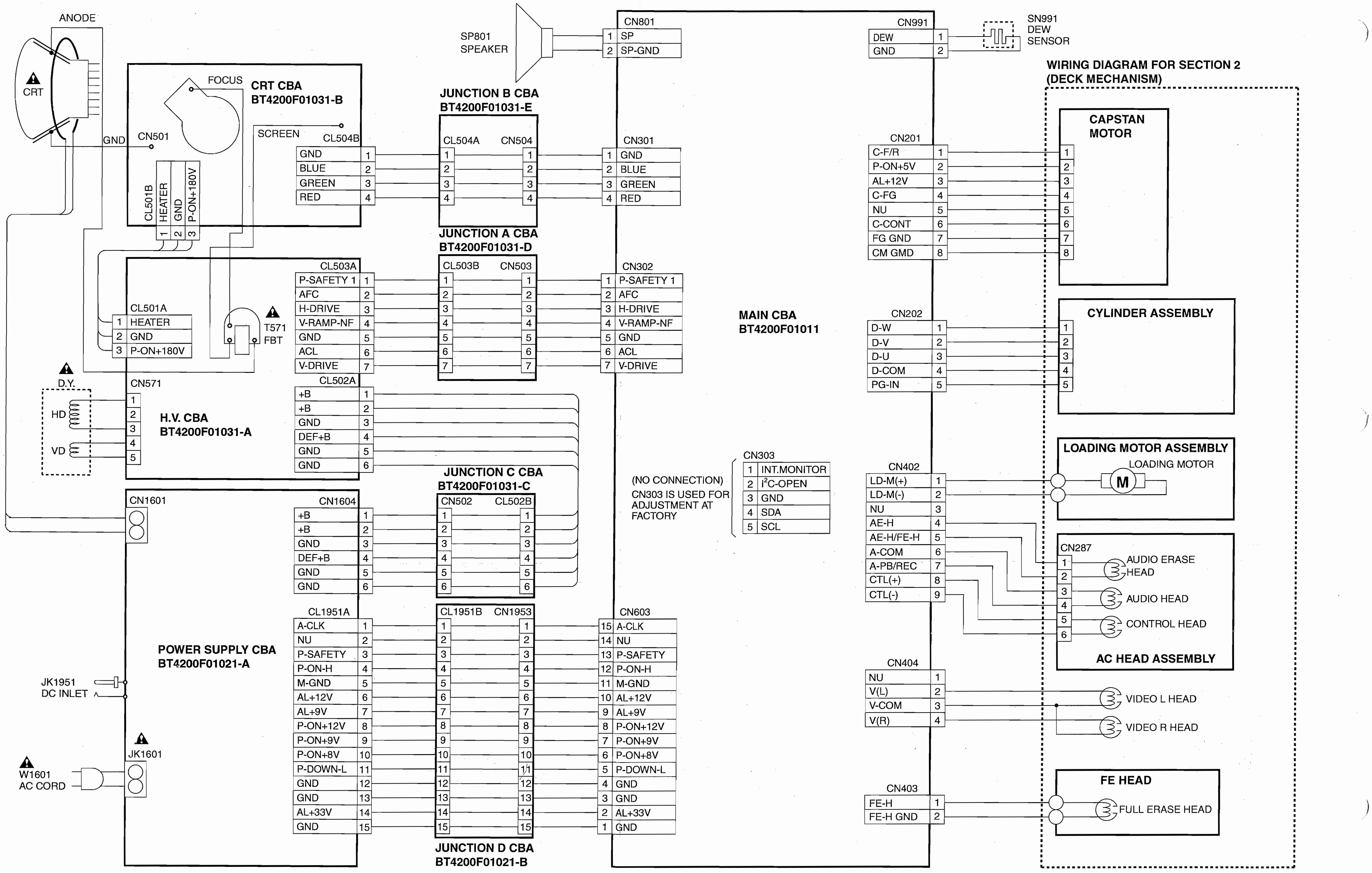


WF17 MAIN 1/3 SCHEMATIC DIAGRAM
IC201 PIN 58



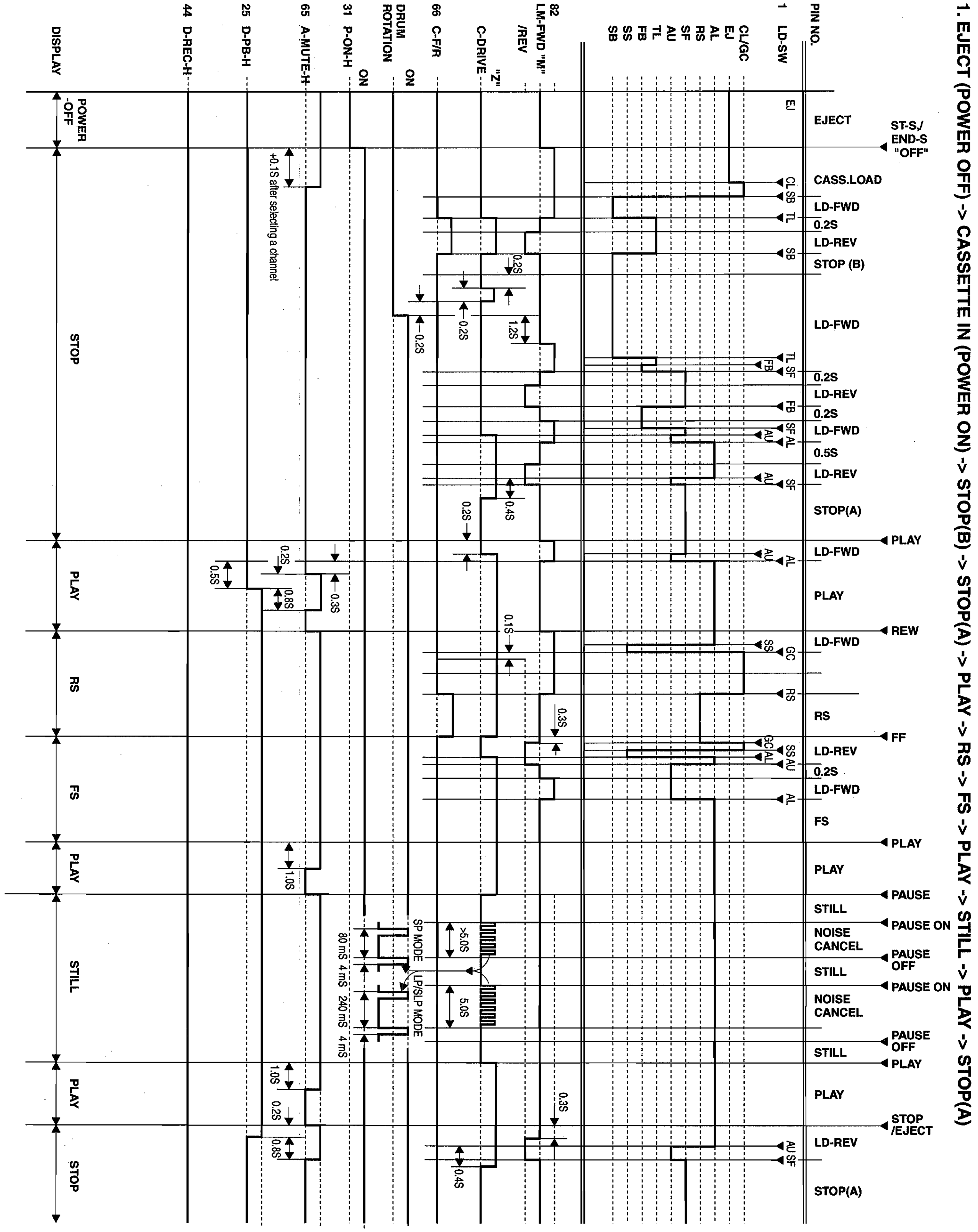
WF18 MAIN 1/3 SCHEMATIC DIAGRAM
IC201 PIN 59

WIRING DIAGRAM



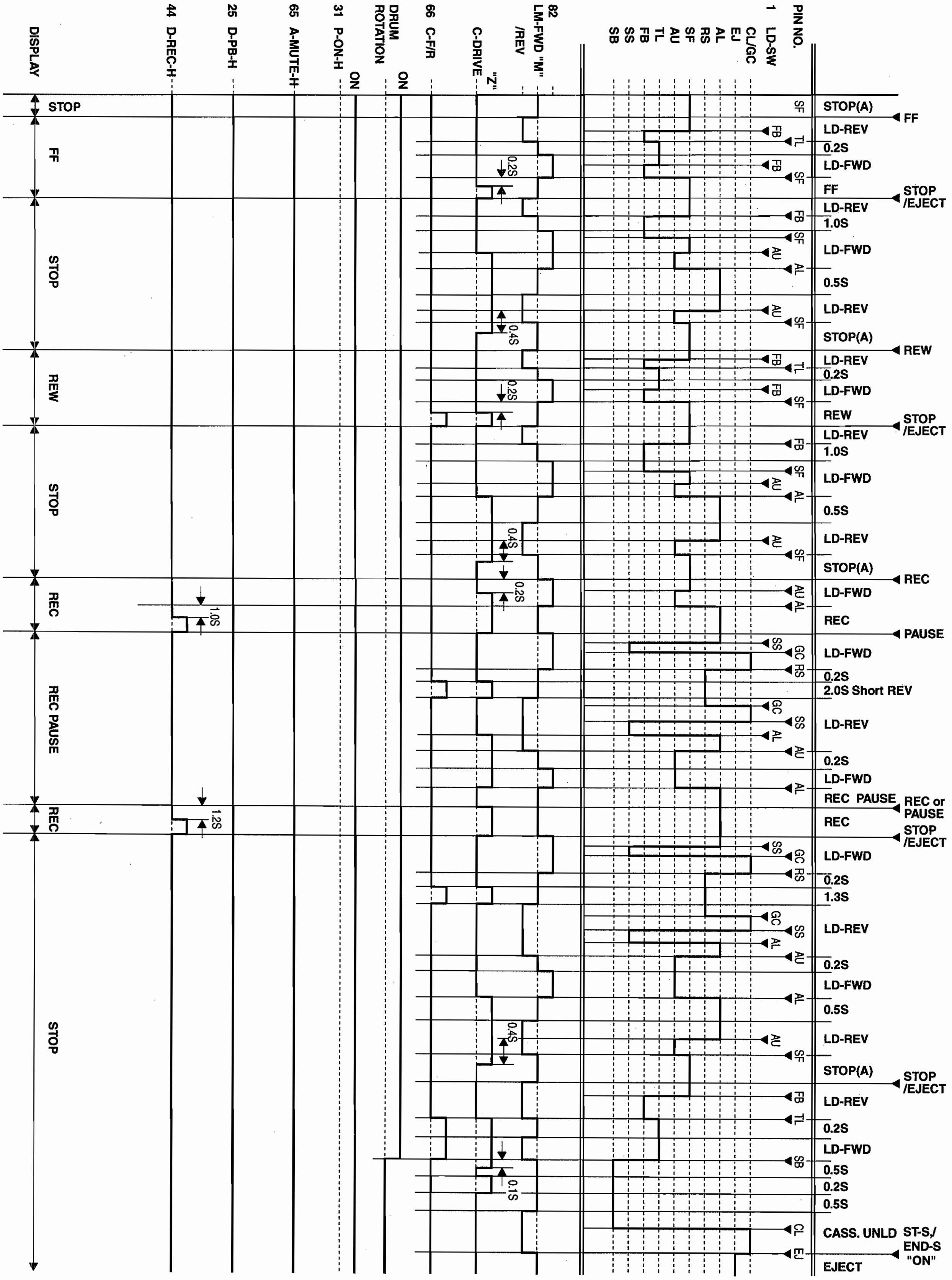
SYSTEM CONTROL TIMING CHARTS

Chart 1



1. EJECT (POWER OFF) -> CASSETTE IN (POWER ON) -> STOP(B) -> STOP(A) -> PLAY -> RS -> FS -> PLAY -> STILL -> PLAY -> STOP(A)

Chart 2



2. STOP(A) -> FF -> STOP(A) -> REW -> STOP(A) -> REC -> PAUSE -> PAUSE or REC -> STOP(A) -> EJECT

IC PIN FUNCTION DESCRIPTIONS

IC 201 (TV/VCR Micro Computer)

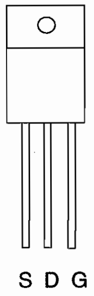
Pin No.	In/ Out	Signal Name	Function
1	In	LD-SW	Loading Switch Input
2	In	P-SAFETY 1	Power Supply Failure Detection 1
3	In	P-SAFETY 2	Power Supply Failure Detection 2
4	Out	NU	Not used
5	In	KEY0	Key 0 Input
6	In	KEY1	Key 1 Input
7	In	END-SENS	End-Sensor
8	Out	NU	Not used
9	In	ST-SENS	Start-Sensor
10	In	V-ENV	Video Envelope Input
11	Out	NU	Not used
12	Out	SP-MUTE	Speaker Mute Output
13	In/ Out	D-V SYNC	Artificial V-Sync Output
14	In	REMOTE	Remote signal Input
15	Out	ROTA	ROTA Output
16	Out	NU	Not used
17	In	NU	Not used
18	Out	RF-SW	RF-SW Output
19	Out	NU	Not Used
20	Out	NU	Not used
21	Out	SLP-L	SLP Output
22	In/ Out	NU	Not used
23	Out	REC-LED	Recording LED
24	Out	REC-LED	Recording LED
25	Out	NU	Not Used
26	In	NU	Not Used
27	In/ Out	REC/EE/ PB	YCA IC Mode Output
28	In/ Out	TAPE-SPEED	Tape Speed Output
29	Out	EXT-H	External Input or Playback = Output
30	In/ Out	RENTAL	Rental Position Output
31	Out	P-ON-H	P-ON Output
32	Out	SPL-PLAY	Special Playback=Output
33	In	REC-SAFETY	Record Protection Tab Detection
34	In	RESET	Reset
35	In	Xc-in	Oscillator C Input
36	Out	Xc-out	Oscillator C Output
37	--	Timer +5	Timer+5V In
38	In	X-in	Oscillator Input
39	Out	X-out	Oscillator Output
40	--	GND	GND
41	Out	SPOT-KILL	Counter-measure for Spot
42	In	NU	Not used
43	In	CLKSEL	Clock Select
44	Out	D-REC-H	Recording Output
45	In	I2C-OPEN	White Balance Adjust Mode Judgment
46	--	GND	GND
47	Out	NU	Not used
48	Out	NU	Not used
49	--	GND	OSD GND
50	In	NU	Not used
51	In	NU	Not used
52	In	NU	Not used
53	--	P-ON +5V	OSD Vcc
54	--	HLF	HLF
55	In	VHOLD	VHOLD
56	In	CVIN	Video Signal Input
57	--	GND	GND
58	In	H-SYNC	H-Sync Input
59	In	V-SYNC	V-Sync Input
60	Out	OUT	Output for Picture Cut off
61	Out	NU	Not used
62	Out	OSD-B	Blue Output
63	Out	OSD-G	Green Output
64	Out	OSD-R	Red Output
65	Out	A-MUTE-H	Audio Mute Output
66	Out	C-F/R	Capstan Direction Output

Pin No.	In/ Out	Signal Name	Function
67	I/O	NU	Not used
68	Out	NU	Not used
69	Out	NU	Not used
70	Out	NU	Not used
71	Out	SCL	E2PROM/CHROMA IC Tuner Communication Clock
72	In/ Out	SDA	E2PROM/CHROMA IC Tuner Communication Data
73	Out	NU	Not used
74	In	C-SYNC	C-SYNC out
75	Out	NU	Not used
76	Out	C-CONT	Capstan Control Output
77	Out	D-CONT	Drum Control Output
78	Out	NU	Not used
79	In	NU	Not used
80	In	T-REEL	Take up Reel Pulse in
81	In	NU	Not used
82	In/ Out	LDM-CONT	Loading Motor Control
83	Out	NU	Not used
84	Out	P-DOWN-L	Power Down Detection
85	In	NU	Not used
86	In	NU	Not used
87	In	C-FG	Capstan-FG Input
88	--	GND	GND (AMP)
89	In	D-FG	Drum-FG Input
90	In	D-PG	Drum-PG Input
91	Out	NU	Not used
92	In	AMP Vref in	Standard Voltage Input
93		C	Ext. Capacitor Connection Port for Analog Amp
94	I/O	CTL (-)	CTL (-)
95	I/O	CTL (+)	CTL (+)
96		AMPC	AMPC
97	Out	CTL AMPout	CTL Amp Output

Pin No.	In/ Out	Signal Name	Function
98	--	P-ON+5V	Power Supply for AMP
99	--	ALL+5V	A/D, D/A Standard Voltage
100	In	X-RAY	X-Ray Protection

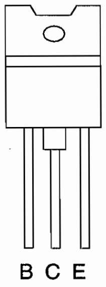
LEAD IDENTIFICATIONS

2SK2876



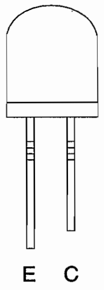
S: Souce
D: Drain
G: Gate

2SD2627



E: Emitter
C: Collector
B: Base

ST-304L



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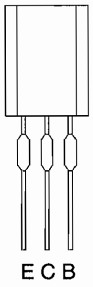

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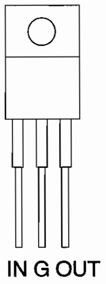

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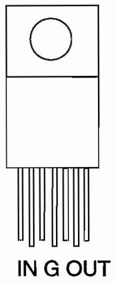

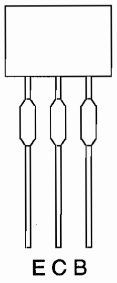

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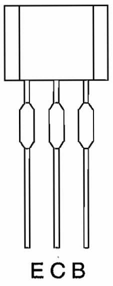

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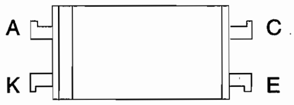
2SC3331
2SA950
KTC3199

LTV-817



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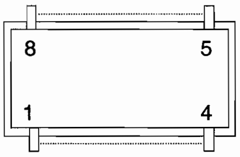

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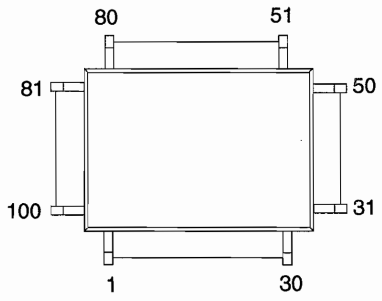

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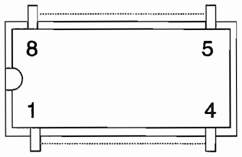

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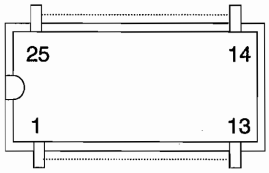

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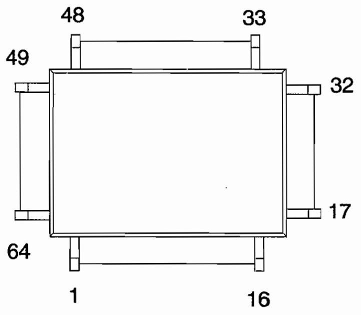

DECK MECHANISM SECTION

9" COLOR TV/VCR COMBINATION

EWC0901

Sec. 2: Deck Mechanism Section

- ● **Standard Maintenance**
- ● **Alignment for Mechanism**
- ● **Disassembly/Assembly of Mechanism**

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Mechanical Alignment Procedures 2-3-1
Disassembly/Assembly Procedures of Deck Mechanism 2-4-1
Alignment Procedure of Mechanism 2-4-9

STANDARD MAINTENANCE

Service Schedule of Components

H: Hours ○: Check ●: Change

Deck		Periodic Service Schedule			
Ref. No.	Part Name	1,000 H	2,000 H	3,000 H	4,000 H
B2	Cylinder Assembly	○	●	○	●
B3	Loading Motor Assembly			●	
B8	Pulley Assembly		●		●
B27	Tension Lever Sub Assembly		●		●
B31	AC Head Assembly			●	
B573, B574	Reel (S), Reel (T)			●	
B37	Capstan Motor		●		●
B52	Cap Belt		●		●
*B73	FE Head			●	
B133	Idler Assembly		●		●
B410	Pinch Arm (A) Assembly		●		●
B414	M Brake S Assembly		●		●
B416	M Brake T Assembly		●		●
B525	LDG Belt		●		●

Notes:

1. Clean all parts for the tape transport (Upper Drum with Video Head / Pinch Roller / Audio Control Head / Full Erase Head) using 90% Isopropyl Alcohol.
2. After cleaning the parts, do all DECK ADJUSTMENTS.
3. For the reference numbers listed above, refer to Deck Exploded Views.

   * B73 ------ VCR Model only

Cleaning

Cleaning of Video Head

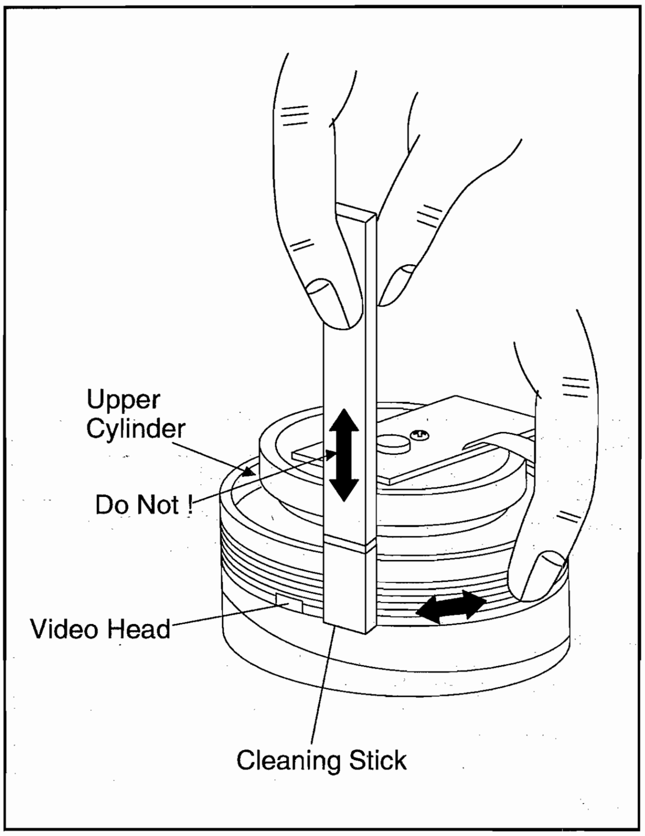
Clean the head with a head cleaning stick or chamois cloth.

Procedure

1. Remove the top cabinet.
2. Put on a glove (thin type) to avoid touching the upper and lower drum with your bare hand.
3. Put a few drops of 90% Isopropyl alcohol on the head cleaning stick or on the chamois cloth and, by slightly pressing it against the head tip, turn the upper drum to the right and to the left.

Notes:

1. The video head surface is made of very hard material, but since it is very thin, avoid cleaning it vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit.
3. Do not reuse a stained head cleaning stick or a stained chamois cloth.



Cleaning of Audio Control Head

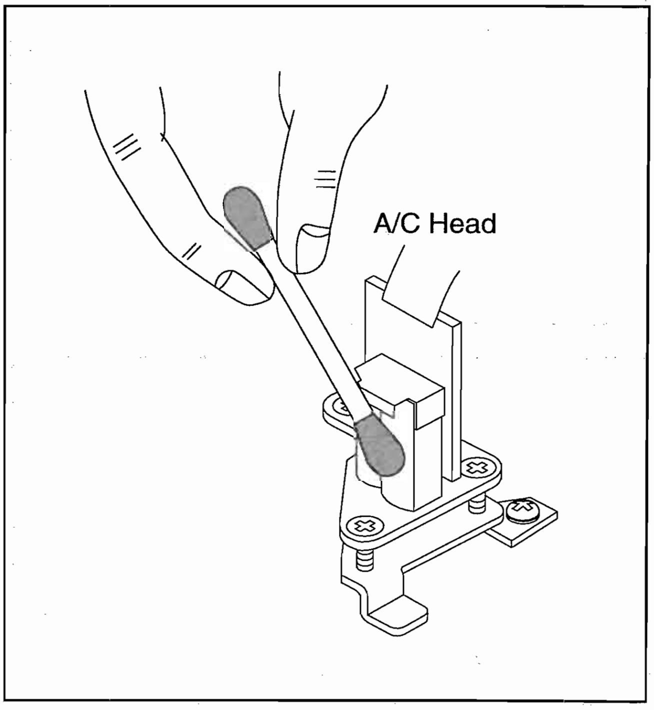
Clean the head with a cotton swab.

Procedure

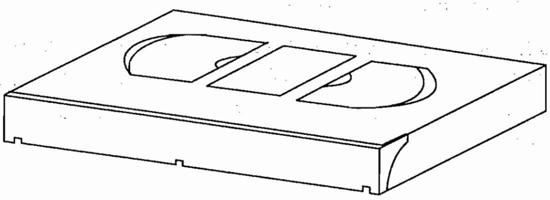
1. Remove the top cabinet.
2. Dip the cotton swab in 90% isopropyl alcohol and clean the audio control head. Be careful not to damage the upper drum and other tape running parts.

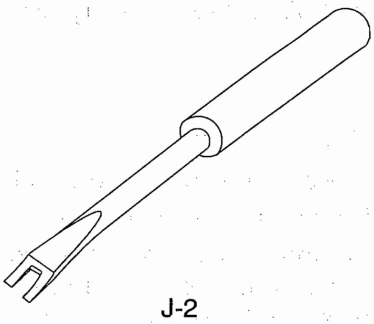
Notes:

1. Avoid cleaning the audio control head vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



SERVICE FIXTURE AND TOOLS


J-1-1, J-1-2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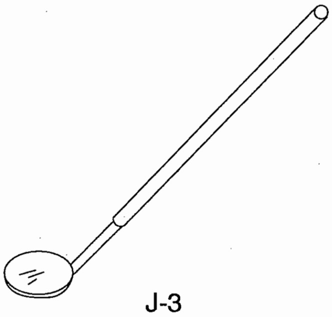
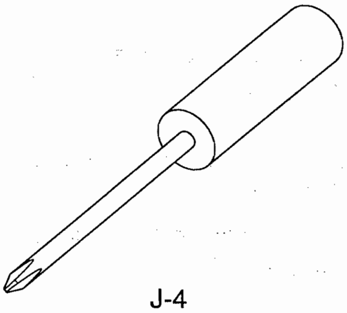
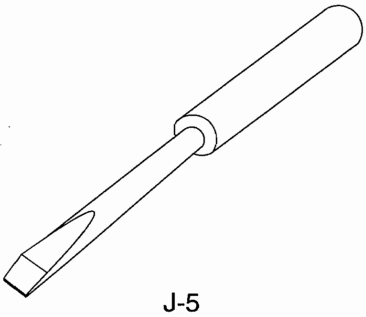

J-3


J-4


J-5

Ref. No.	Name	Part No.	Adjustment
J-1-1	Alignment Tape	FL8A	Head Adjustment of Audio Control Head
J-1-2	Alignment Tape	FL8N (2Head only) FL8NW (4Head only)	Azimuth and X Value Adjustment of Audio Control Head / Adjustment of Envelope Waveform
J-2	Guide Roller Adj.Screwdriver	FSJ-0006	Guide Roller
J-3	Mirror	FSJ-0004	Tape Transportation Check
J-4	Azimuth Adj.Screwdriver +	Available Locally	A/C Head Height
J-5	X Value Adj.Screwdriver -	Available Locally	X Value

MECHANICAL ALIGNMENT PROCEDURES

Explanation of alignment for the tape to correctly run starts on the next page. Refer to the information below on this page if a tape gets stuck, for example, in the mechanism due to some electrical trouble of the unit.

Service Information

A. Method for Manual Tape Loading/Unloading

To load a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Insert a cassette tape. Though the tape will not be automatically loaded, make sure that the cassette tape is all the way in at the inlet of the Cassette Holder. To confirm this, lightly push the cassette tape further in and see if the tape comes back out, by a spring motion, just as much as you have pushed in.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 for a minute or two to complete this task.

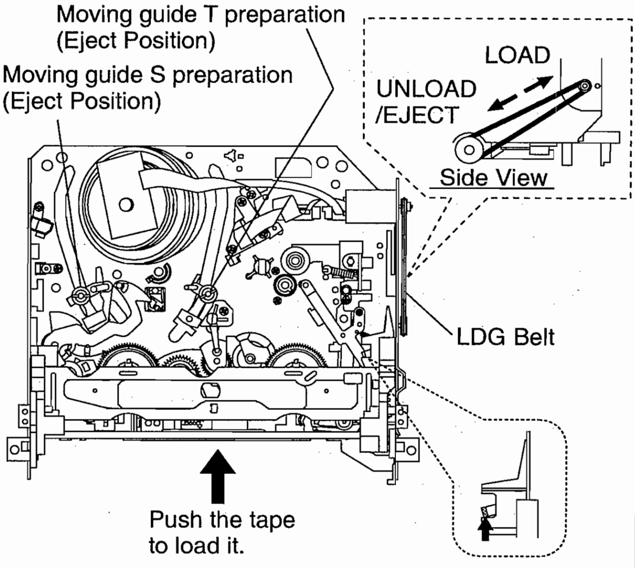
To unload a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Make sure that the Moving guide preparations are in the Eject Position.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 until the Moving guide preparations come to the Eject Position. Stop turning when the preparations begin clicking or can not be moved further. However, the tape will be left wound around the cylinder.
5. Turn the LDG Belt in the appropriate direction continuously, and the cassette tape will be ejected. Allow a minute or two to complete this task.

B. Method to place the Cassette Holder in the tape-loaded position without a cassette tape

1. Disconnect the AC Plug.
2. Remove the Top Case and Front Assembly.
3. Turn the LDG Belt in the appropriate direction shown in Fig. M1. Release the locking tabs shown in Fig. M1 and continue turning the LDG Belt until the Cassette Holder comes to the tape-loaded position. Allow a minute or two to complete this task.

Top View



Push the locking tab gently to unlock when loading without a cassette.

Fig. M1

Bottom View

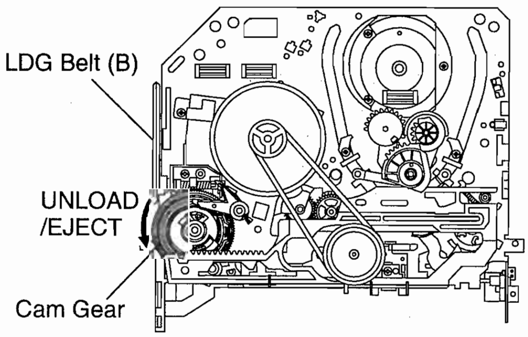


Fig. M2

1. Tape Interchangeability Alignment

Note:

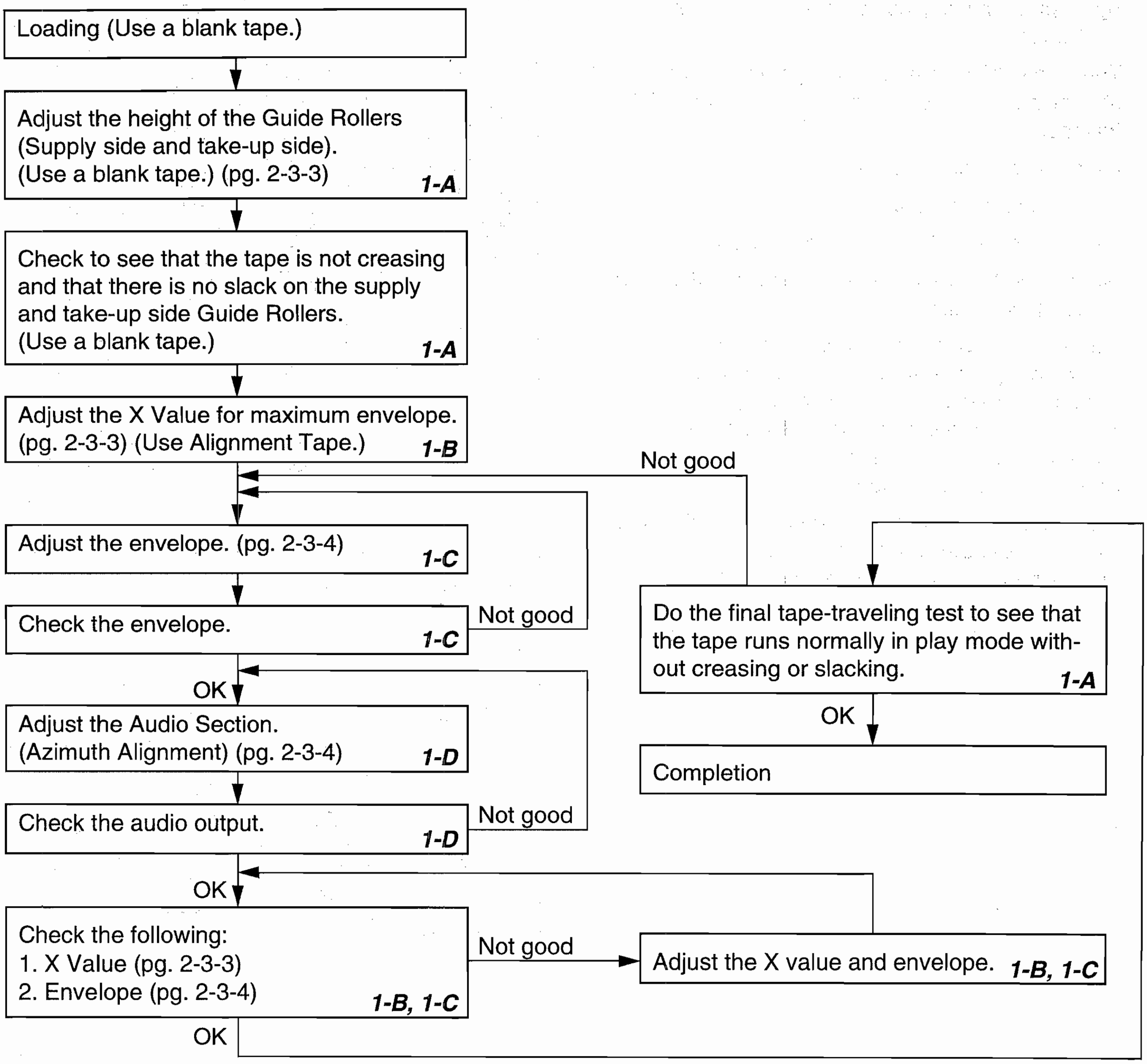
To do these alignment procedures, make sure that the Tracking Control Circuit is set to the center position every time a tape is loaded or unloaded. (Refer to page 2-3-4, procedure 1-C, step 2.)

Equipment required:

Dual Trace Oscilloscope
VHS Alignment Tape (FL8N)
Guide Roller Adj. Screwdriver
X-Value Adj. Screwdriver

Note: Before starting this Mechanical Alignment, do all Electrical Adjustment procedures.

Flowchart of Alignment for tape traveling



Loading (Use a blank tape.)
Adjust the height of the Guide Rollers (Supply side and take-up side). (Use a blank tape.) (pg. 2-3-3) 1-A
Check to see that the tape is not creasing and that there is no slack on the supply and take-up side Guide Rollers. (Use a blank tape.) 1-A
Adjust the X Value for maximum envelope. (pg. 2-3-3) (Use Alignment Tape.) 1-B
Not good
Adjust the envelope. (pg. 2-3-4) 1-C
Check the envelope. 1-C
Not good
OK
Adjust the Audio Section. (Azimuth Alignment) (pg. 2-3-4) 1-D
Check the audio output. 1-D
Not good
OK
Check the following:
1. X Value (pg. 2-3-3)
2. Envelope (pg. 2-3-4) 1-B, 1-C
Not good
Adjust the X value and envelope. 1-B, 1-C
OK
Do the final tape-traveling test to see that the tape runs normally in play mode without creasing or slacking. 1-A
OK
Completion

1-A. Preliminary/Final Checking and Alignment of Tape Path

Purpose:

To make sure that the tape path is well stabilized.

Symptom of Misalignment:

If the tape path is unstable, the tape will be damaged.

Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

1. Play back a blank cassette tape and check to see that the tape runs without creasing at Guide Rollers [2] and [3], and at points A and B on the lead surface. (Refer to Fig M3 and M4.)
2. If creasing is apparent, align the height of the guide rollers by turning the top of Guide Rollers [2] and [3] with a Guide Roller Adj. Screwdriver. (Refer to Fig. M3 and M5.)
   Note: Beneath each Guide Roller, there is a small screw. (Refer to Fig. M5.) This screw works to apply adequate torque to the shaft of each Guide Roller so that the Guide Roller turns properly. Even when adjusting the height of the Guide Roller(s), do not touch these two small screws.

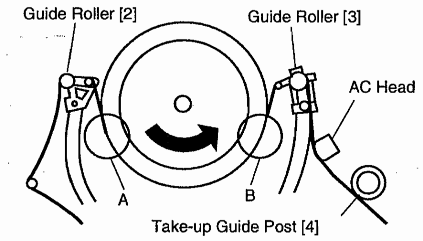


Fig. M3

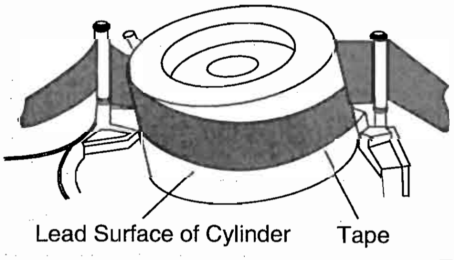


Fig. M4

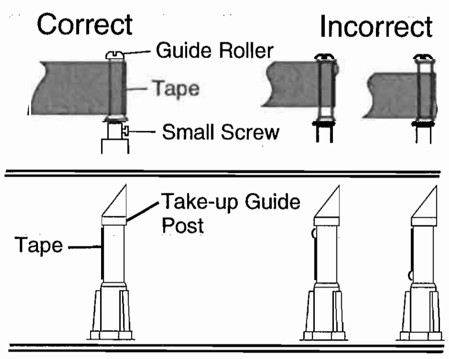


Fig. M5

3. Check to see that the tape runs without creasing at Take-up Guide Post [4] or without snaking between Guide Roller [3] and AC Head. (Fig. M3 and M5)
4. If creasing or snaking is apparent, adjust the Tilt Adj. Screw of the AC Head. (Fig. M6)

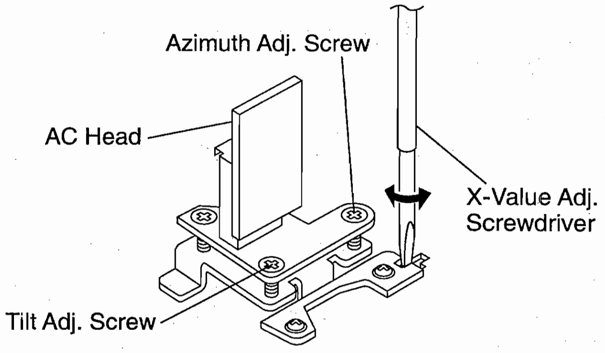


Fig. M6

1-B. X Value Alignment

Purpose:

To align the Horizontal Position of the Audio/Control/Erase Head.

Symptom of Misalignment:

If the Horizontal Position of the Audio/Control/Erase Head is not properly aligned, maximum envelope cannot be obtained at the Neutral position of the Tracking Control Circuit.

1. Connect the oscilloscope to J36 (C-PB) and J31 (CTL) on the Main CBA. Use J69 (RF-SW) as a trigger.
2. Play back the Gray Scale of the Alignment Tape (FL8N) and confirm that the PB FM signal is present.
3. Set the Tracking Control Circuit to the center position by pressing the CH UP button then the PLAY button on the VCR. (Refer to note on bottom of page 2-3-4.)
4. Use the X-Value Adj. Screwdriver so that the PB FM signal at J36 (C-PB) is maximum. (Fig. M6)
5. Press CH UP button on the VCR until the CTL waveform has shifted by approx. +2msec. Make sure that the envelope is simply attenuated (shrinks in height) during this process so that you will know the envelope has been at its peak.

6. Press CH DOWN button on the VCR until the CTL waveform has shifted from its original position (not the position achieved in step 5, but the position of CTL waveform in step 4) by approximately -2msec. Make sure that the envelope is simply attenuated (shrinks in height) once CTL waveform passes its original position and is further brought in the minus direction.
7. Set the Tracking Control Circuit to the center position by pressing the CH UP button and then the PLAY button on the VCR.

1-C. Checking/Adjustment of Envelope Waveform

Purpose:

To achieve a satisfactory picture and precise tracking.

Symptom of Misalignment:

If the envelope output is poor, noise will appear in the picture. The tracking will then lose precision and the playback picture will be distorted by any slight variation of the Tracking Control Circuit.

1. Connect the oscilloscope to J36 (C-PB) on the Main CBA. Use J31 (RF-SW) as a trigger.
2. Play back the Gray Scale on the Alignment Tape (FL8N). Set the Tracking Control Circuit to the center position by pressing the CH UP and then the PLAY button on the VCR. Adjust the height of Guide Rollers [2] and [3] (Fig. M3, Page 2-3-3) watching the oscilloscope display so that the envelope becomes as flat as possible. To do this adjustment, turn the top of the Guide Roller with the Guide Roller Adj. Screwdriver.
3. If the envelope is as shown in Fig. M7, adjust the height of Guide Roller [2] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
4. If the envelope is as shown in Fig. M8, adjust the height of Guide Roller [3] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
5. When Guide Rollers [2] and [3] (Refer to Fig.M3) are aligned properly, there is no envelope drop either at the beginning or end of track as shown in Fig. M9.

Note: Upon completion of the adjustment of Guide Rollers [2] and [3] (Refer to Fig. M3), check the X Value by pushing the CH UP or DOWN buttons alternately, to check the symmetry of the envelope. Check the number of pushes to ensure center position. The number of pushes UP to achieve 1/2 level of envelope should match the number of pushes DOWN from center. If required, redo the "X Value Alignment."

1-D. Azimuth Alignment of Audio/Control/Erase Head

Purpose:

To correct the Azimuth alignment so that the Audio/Control/Erase Head meets tape tracks properly.

Symptom of Misalignment:

If the position of the Audio/Control/Erase Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear side of the deck.
2. Play back the alignment tape (FL8N) and confirm that the audio signal output level is 8 kHz.
3. Adjust Azimuth Adj. Screw so that the output level on the AC Voltmeter or the waveform on the oscilloscope is at maximum. (Fig. M6)

Dropping envelope level at the beginning of track.

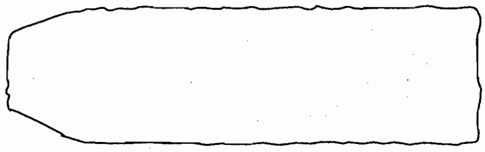


Fig. M7

Dropping envelope level at the end of track.

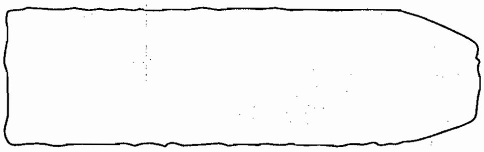


Fig. M8

Envelope is adjusted properly. (No envelope drop)

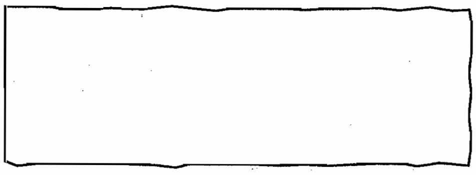


Fig. M9

DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM

Before following the procedures described below, be sure to remove the deck assembly from the cabinet. (Refer to CABINET DISASSEMBLY INSTRUCTIONS on page 1-6-1.)

All the following procedures, including those for adjustment and replacement of parts, should be done in Eject mode; see the positions of [42] and [43] in Fig. DM1 on page 2-4-3. When reassembling, follow the steps in reverse order.

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Cassette Holder Assembly	T	DM3		
[2]	[1]	Slider L	T	DM4	(S-1)	
[3]	[1]	Slider R	T	DM4	(S-2)	
[4]	[3]	Lock Lever	T	DM4	(S-3), *(P-1)	
[5]	[1]	Cassette Plate	T	DM4		
[6]	[6]	Cylinder Assembly	T	DM1, DM5	3(S-4), VH Connector A and B, Connector A and B	
[7]	[7]	Loading Motor Assembly	T	DM1, DM6	2(S-5), (S-6), LDG Belt, ACH Connector AN(9P) and 9B	
[8]	[1]	Tape Guide Assembly	T	DM1, DM7	*(P-2), (C-1)	
[9]	[9]	Door Opener B	T	DM1, DM7	(S-7), *(L-1)	
[10]	[9]	Pinch Arm (B) Assembly	T	DM1, DM7	*(P-3)	
[11]	[10]	Pinch Arm (A) Assembly	T	DM1, DM7		
[12]	[12]	FE Head	T	DM1, DM8	(S-8)	
[13]	[13]	First Post Assembly	T	DM1, DM8	(S-9)	
[14]	[14]	Prism	T	DM1, DM8	(S-10)	
[15]	[15]	Standard Post	T	DM1, DM8	*(L-2)	
[16]	[1]	Slider Shaft	T	DM9	(S-11), *(L-3)	
[17]	[16]	C Drive Lever L	T	DM9		
[18]	[16]	C Drive Lever R	T	DM9		
[19]	[19]	Capstan Motor	B	DM2, DM10	3(S-12), Cap Belt	
[20]	[20]	FF Arm Holder	B	DM2, DM11	(S-13)	
[21]	[20]	Clutch Assembly	B	DM2, DM11	(C-2)	
[22]	[20]	FF Arm	B	DM2, DM11		
[23]	[23]	Cam Holder	B	DM2, DM12	(C-3)	
[24]	[23]	Cam Gear (B)	B	DM2, DM12	(C-4), *(P-4)	
[25]	[25]	Mode Gear	B	DM2, DM13	(C-5)	
[26]	[25]	Mode Lever	B	DM2, DM13	(C-6)	
[27]	[26]	Cam Gear (A)	B	DM2, DM13		
[28]	[27]	Pully Assembly	B	DM2, DM13		
[29]	[28]	Worm Holder	B	DM2, DM13	(S-14)	
[30]	[26]	Sensor Gear	B	DM1, DM14	(C-7)	
[31]	[26]	Idler Assembly	B	DM1, DM14		
[32]	[26]	BT Arm	B	DM2, DM14	*(P-5)	

STEP /LOC. No.	STARTING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[33]	[26]	Loading Arm S Assembly	B	DM2, DM14		(+) Refer to Alignment Sec. Pg. 2-4-9
[34]	[33]	Loading Arm T Assembly	B	DM2, DM14		(+) Refer to Alignment Sec. Pg. 2-4-9
[35]	[26]	M Brake T Assembly	T	DM1, DM15	*(P-6)	
[36]	[36]	M Brake S Assembly	T	DM1, DM15	*(P-7)	
[37]	[36]	Tension Lever Sub Assembly	T	DM1, DM15	*(P-8), (C-8)	
[38]	[37]	T Lever Holder	T	DM1, DM15	*(L-4)	
[39]	[1]	M Gear	T	DM1, DM15	(C-9)	
[40]	[35]	Reel T	T	DM1, DM15		
[41]	[37]	Reel S	T	DM1, DM15		
[42]	[41]	Moving Guide S Preparation	T	DM1, DM16	(S-15), Slide Holder S	
[43]	[34]	Moving Guide T Preparation	T	DM1, DM16	(S-16), Slide Holder T	
[44]	[19]	TG Post Assembly	T	DM1, DM16	*(L-5)	
[45]	[27]	Rack Assembly	R	DM17		(+) Refer to Alignment Sec. Pg. 2-4-10
[46]	[45]	F Door Opener A	R	DM17	*(P-9)	
[47]	[47]	Cleaner Lever Assembly	T	DM1,DM5		
[48]	[47]	CL Post	T	DM1,DM5	*(L-6)	
↓	↓	↓	↓	↓	↓	↓
①	②	③	④	⑤	⑥	⑦

①: Follow steps in sequence. When reassembling, follow the steps in reverse order.
These numbers are also used as Identification (location) No. of parts in the figures.

②: Indicates the part to start disassembling with in order to disassemble the part in column (1).

③: Name of the part

④: Location of the part: T=Top B=Bottom R=Right L=Left

⑤: Figure Number

⑥: Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug, or Desolder
e.g., 2(L-2) = two Locking Tabs (L-2).

⑦: Adjustment Information for Installation
(+): Refer to Deck Exploded Views for lubrication.

Top View

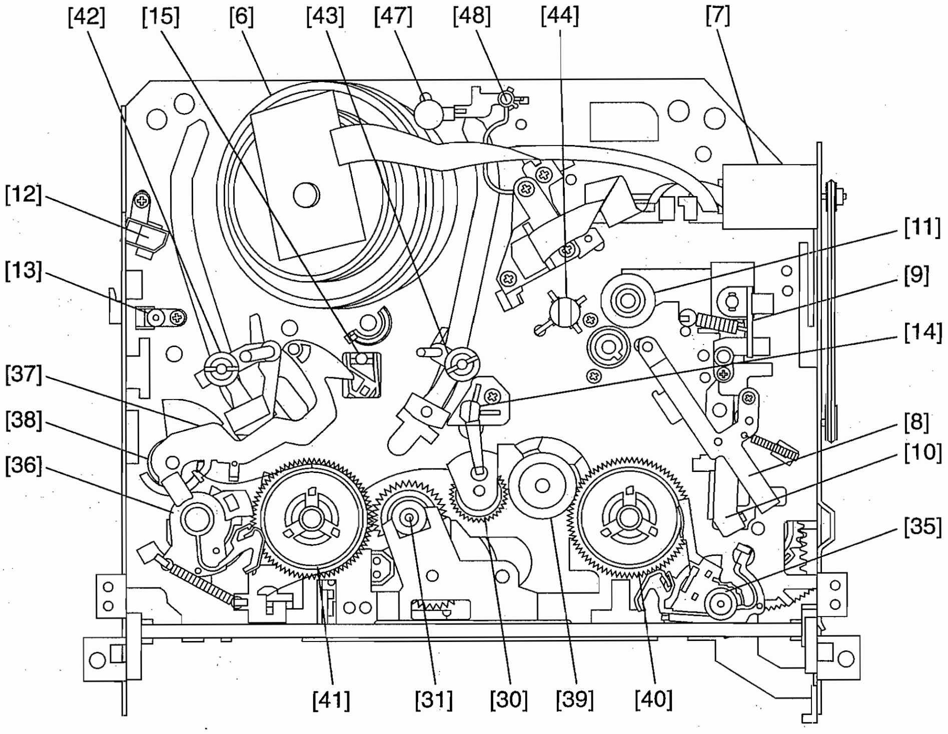


Fig. DM1

Bottom View

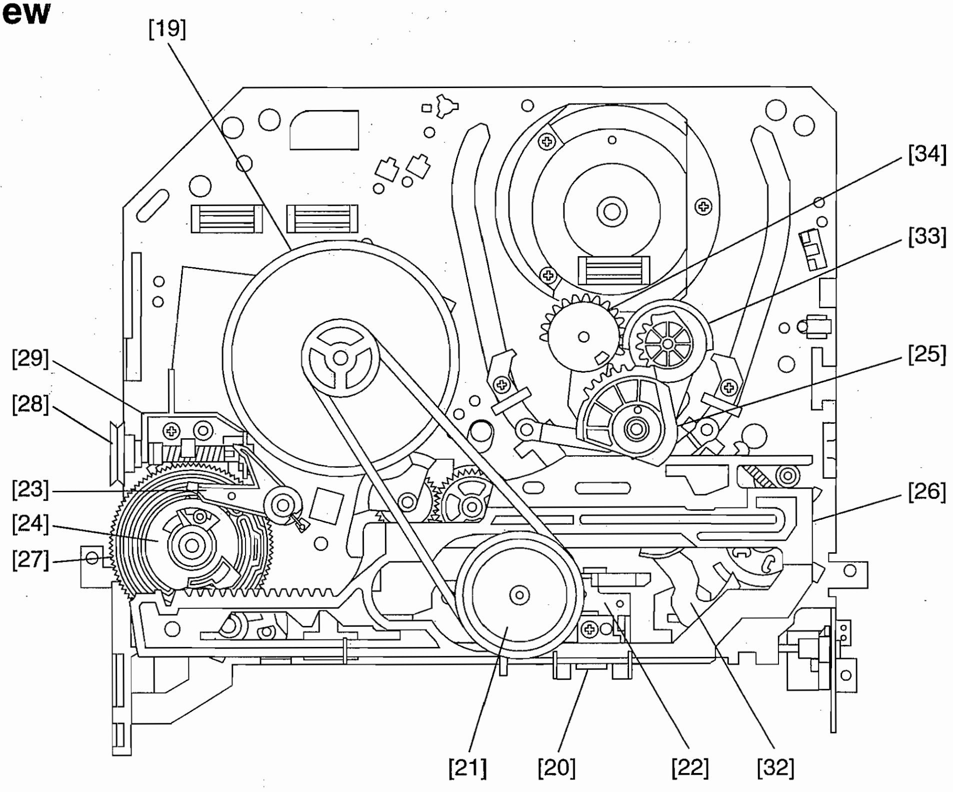
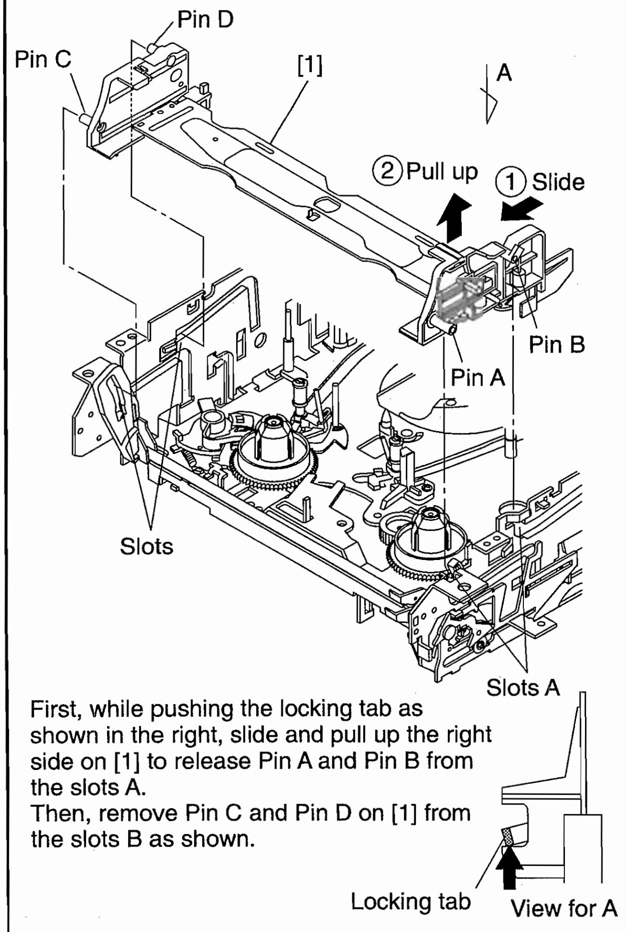


Fig. DM2



First, while pushing the locking tab as shown in the right, slide and pull up the right side on [1] to release Pin A and Pin B from the slots A.
Then, remove Pin C and Pin D on [1] from the slots B as shown.

Fig. DM3

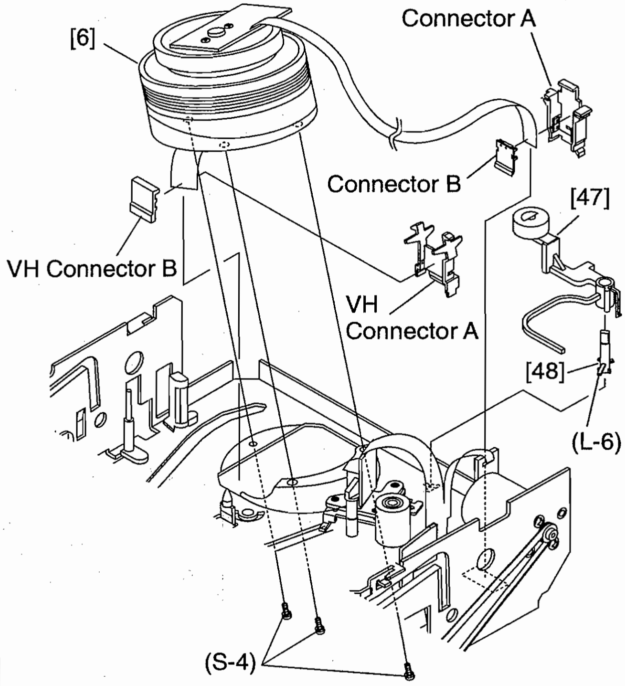


Fig. DM5

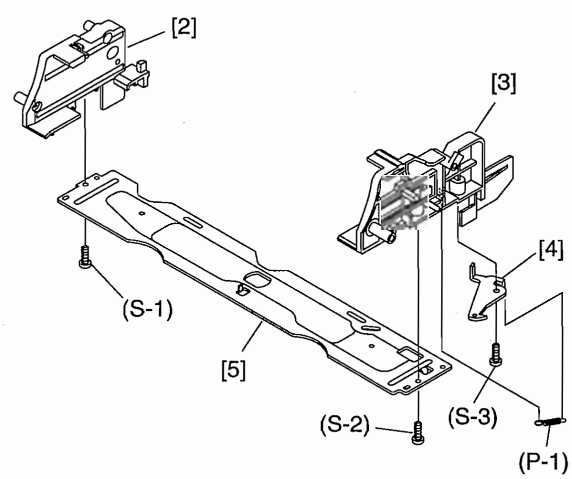


Fig. DM4

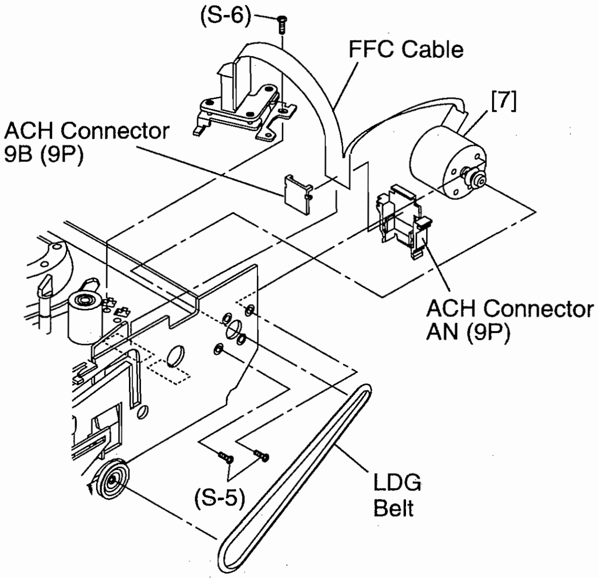
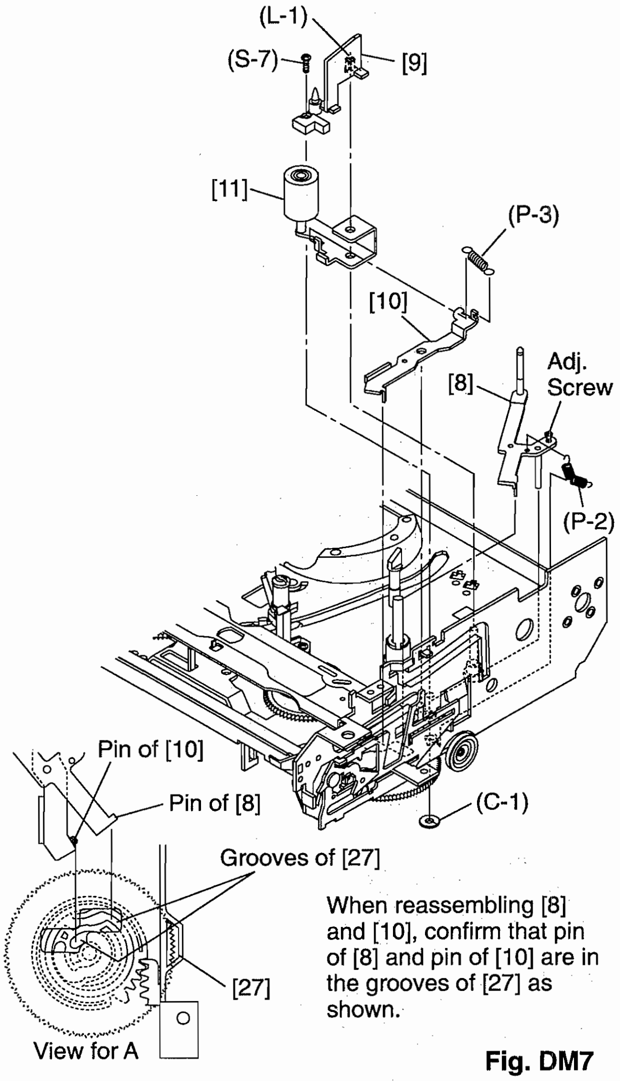


Fig. DM6



When reassembling [8] and [10], confirm that pin of [8] and pin of [10] are in the grooves of [27] as shown.

Fig. DM7

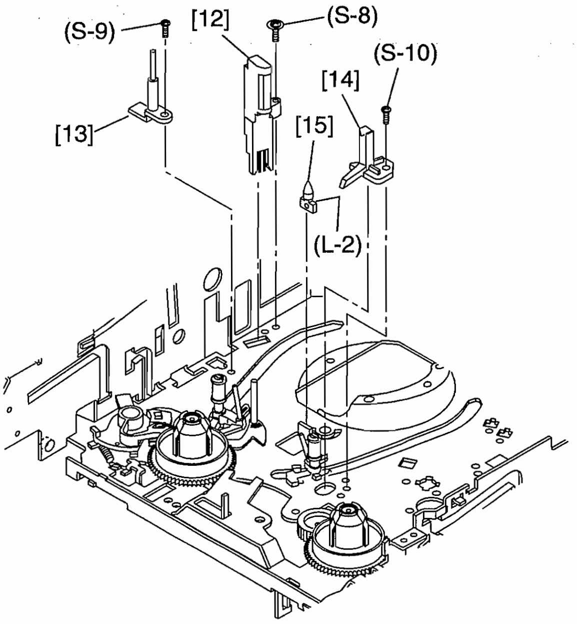


Fig. DM8

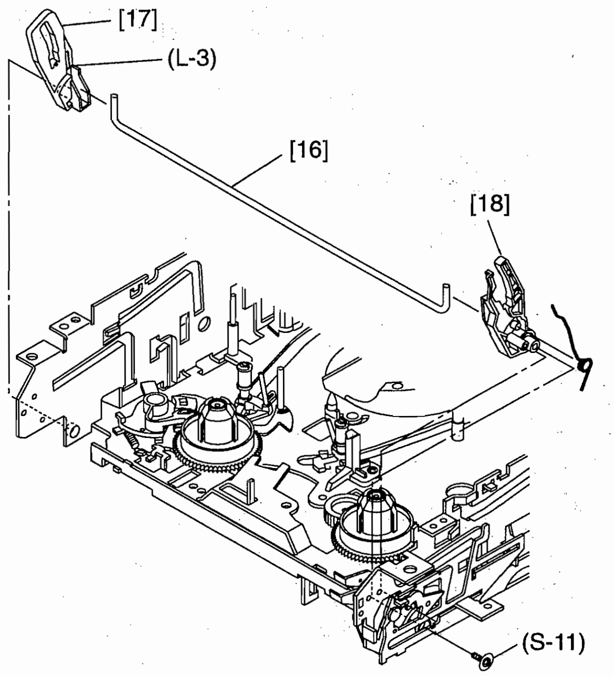


Fig. DM9

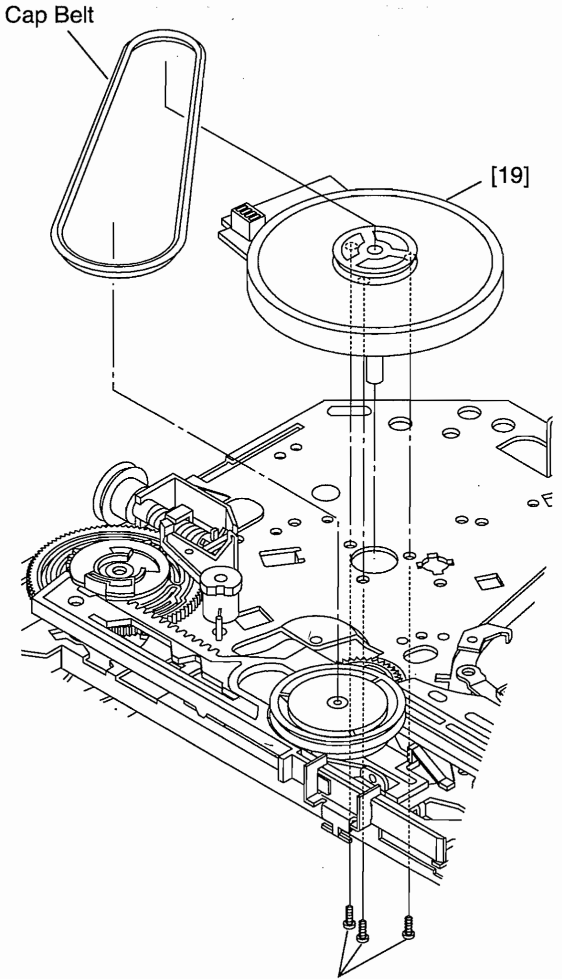
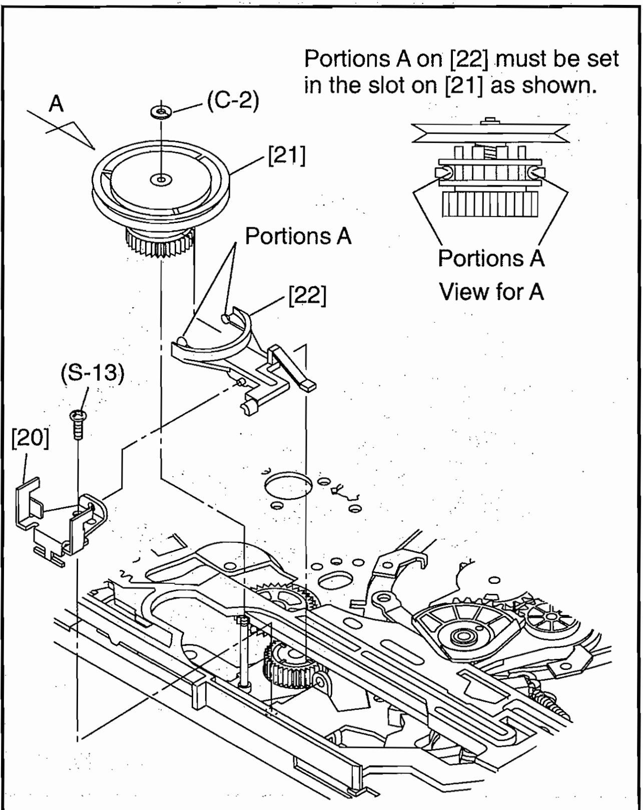


Fig. DM10



Portions A on [22] must be set in the slot on [21] as shown.

Fig. DM11

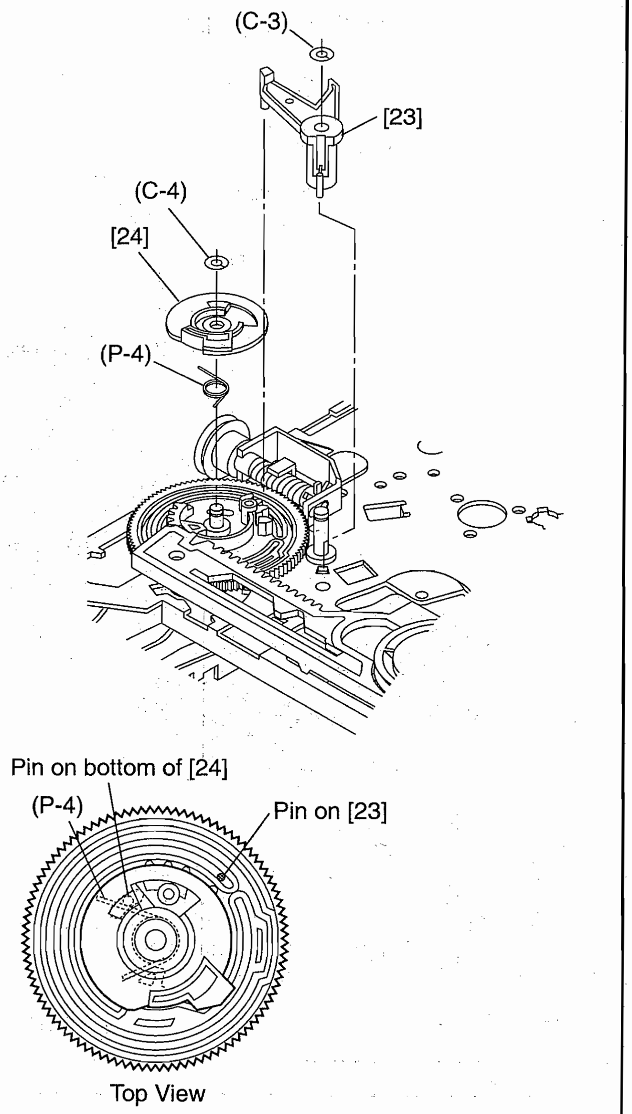
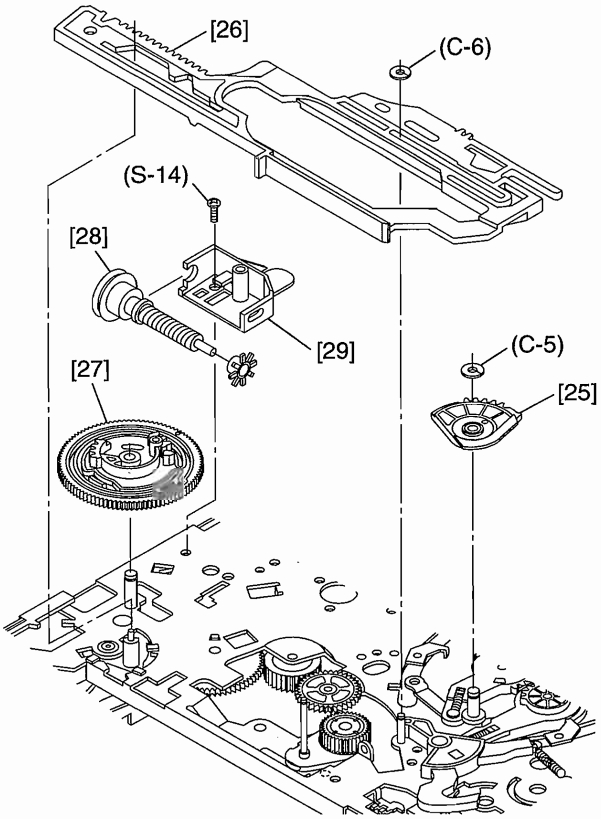
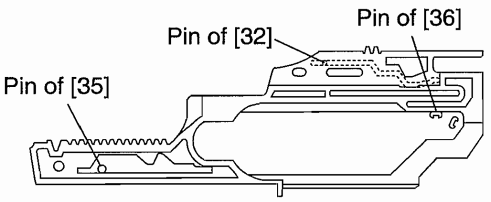
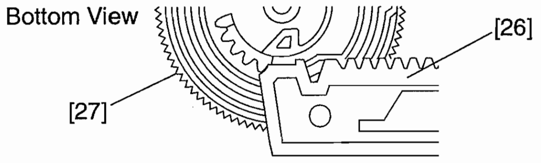


Fig. DM12

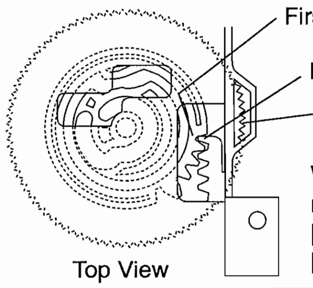


Position of Mode Lever when installed





Align [26] and [27] as shown.



When reassembling [27], meet the first groove on [27] to the first tooth on [45] as shown.

Fig. DM13

Refer to the Alignment Section, Page 2-4-9.

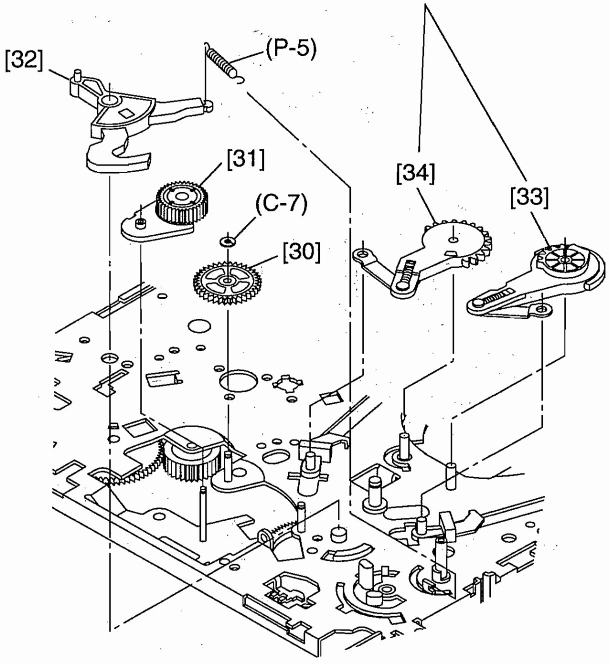


Fig. DM14

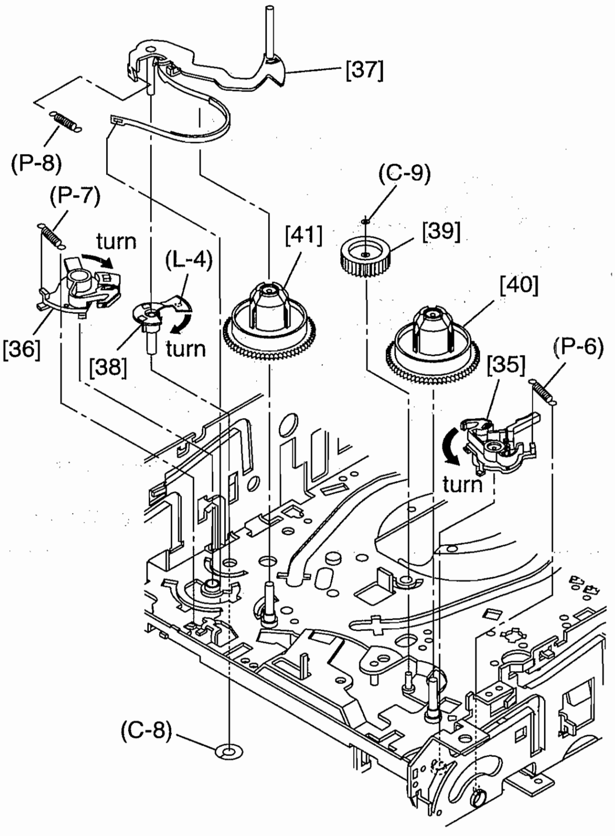


Fig. DM15

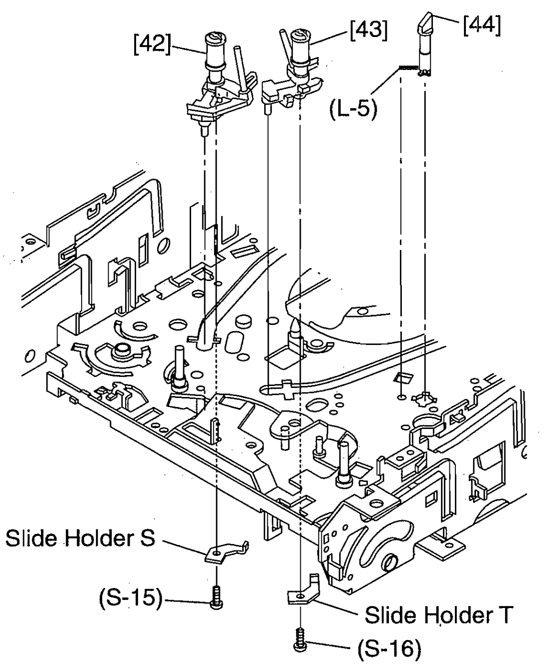


Fig. DM16

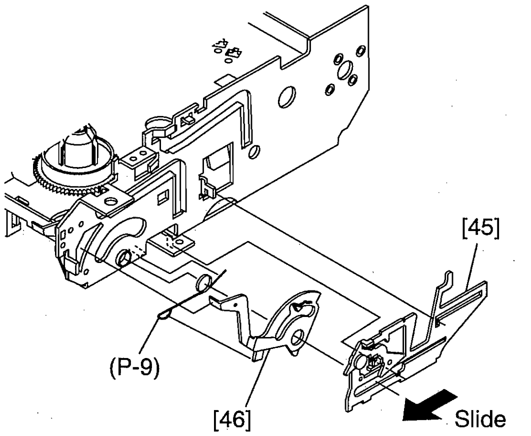


Fig. DM17

ALIGNMENT PROCEDURES OF MECHANISM

The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between individual gears and levers be maintained.

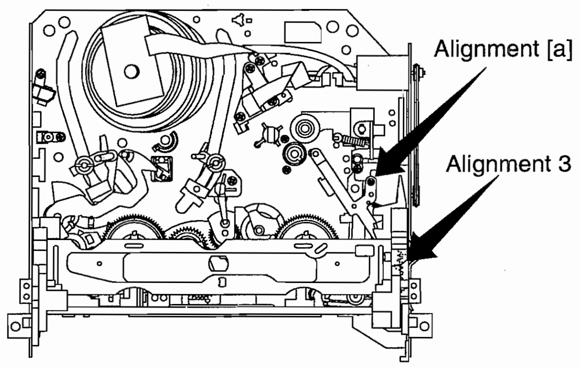
All alignments are to be performed with the mechanism in Eject mode, in the sequence given. Each procedure assumes that all previous procedures have been completed.

IMPORTANT:

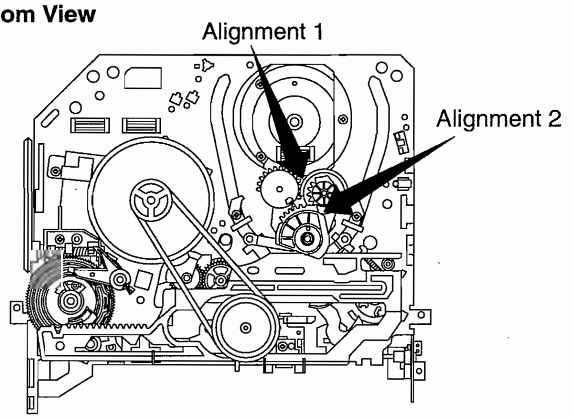
If any one of these alignments is not performed properly, even if off by only one tooth, the unit will unload or stop and it may result in damage to the mechanical or electrical parts.

Alignment points in Eject Position

Top View



Bottom View



Alignment [a] can be done independently of any other alignment.

Fig. AL1

Alignment 1

Loading Arm, S and T Assembly

Install Loading Arm S and T Assembly so that their triangle marks point to each other as shown in Fig. AL2.

Alignment 2

Mode Gear

Keeping the two triangles pointing at each other, install the Loading Arm T Assembly so that the last tooth of the gear meets the most inside teeth of the Mode Gear. See Fig. AL2.

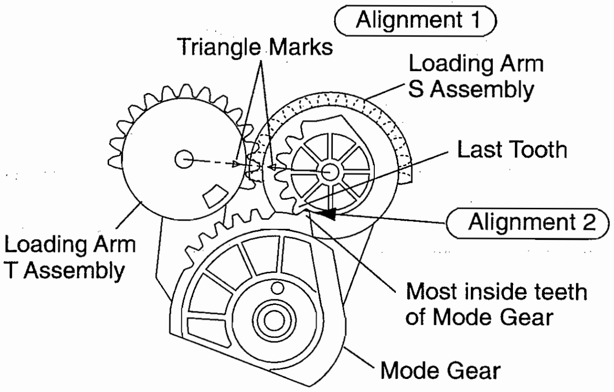
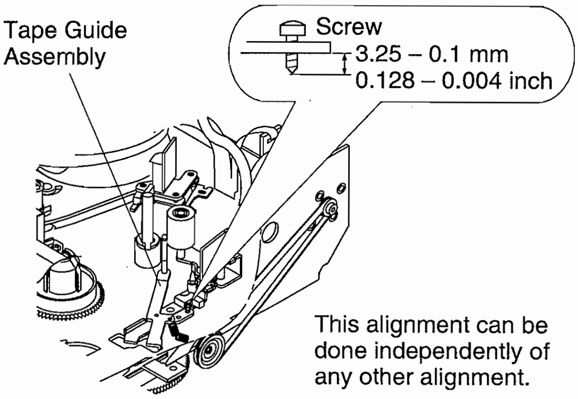


Fig. AL2

Alignment [a]

Tape Guide Assembly

Measurement of the screw must be as specified in Fig. AL3.



This alignment can be done independently of any other alignment.

Fig. AL3

Alignment 3

Cam Gear (A), Rack Assembly

Install the Rack Assembly so that the first tooth on the gear of the Rack Assembly meets the first groove on the Cam Gear (A) as shown in Fig. AL4.

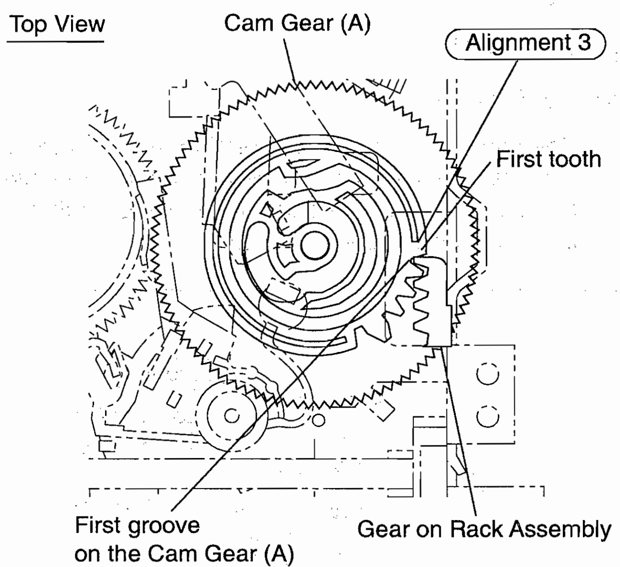


Fig. AL4

EXPLODED VIEWS AND PARTS LIST SECTION

9" COLOR TV/VCR COMBINATION

EWC0901

Sec. 3: Exploded views and Parts List Section

- **Exploded views**
- **Parts List**

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Packing Exploded View 3-1-3
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Mechanical Parts List 3-2-1
Electrical Parts List 3-3-1
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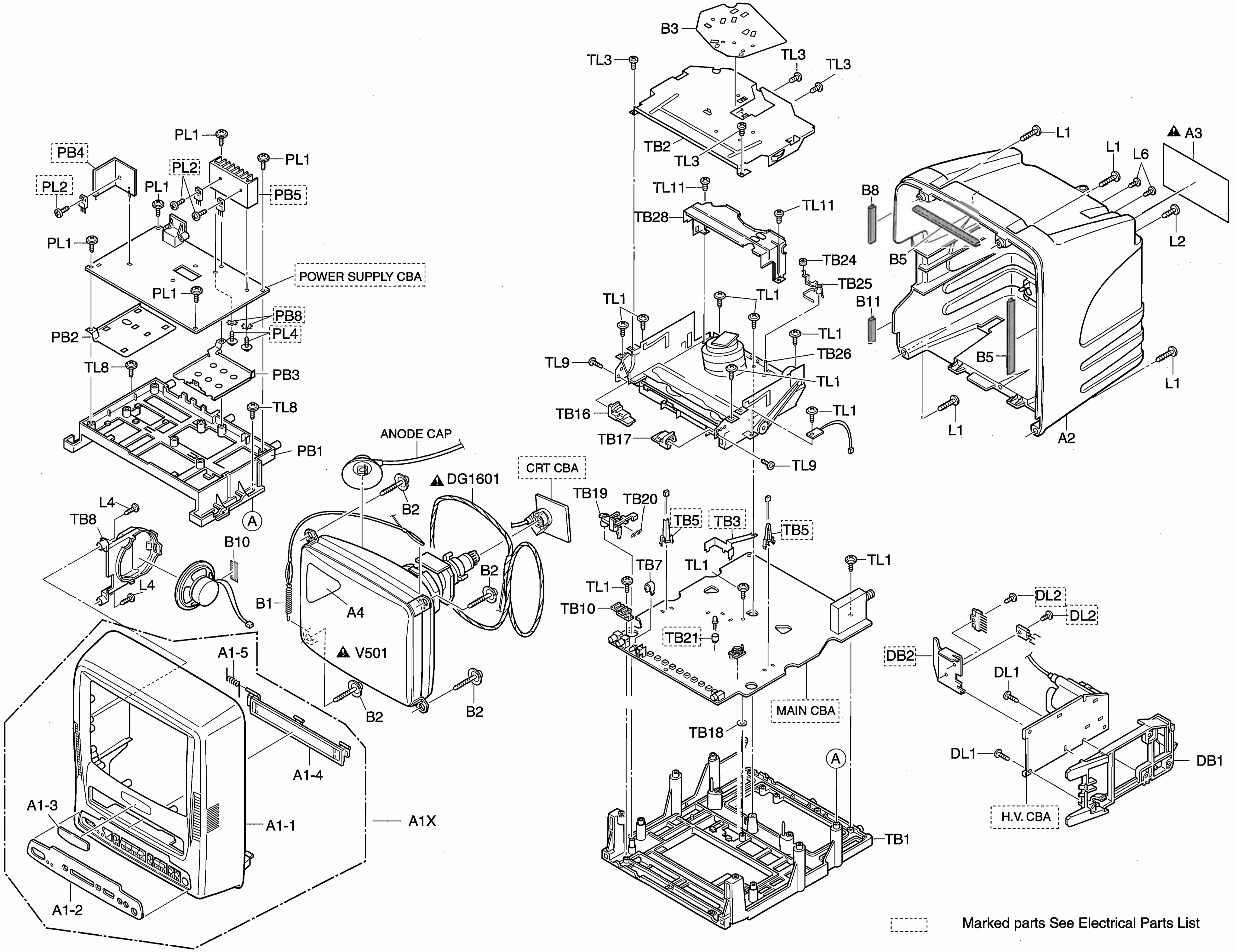
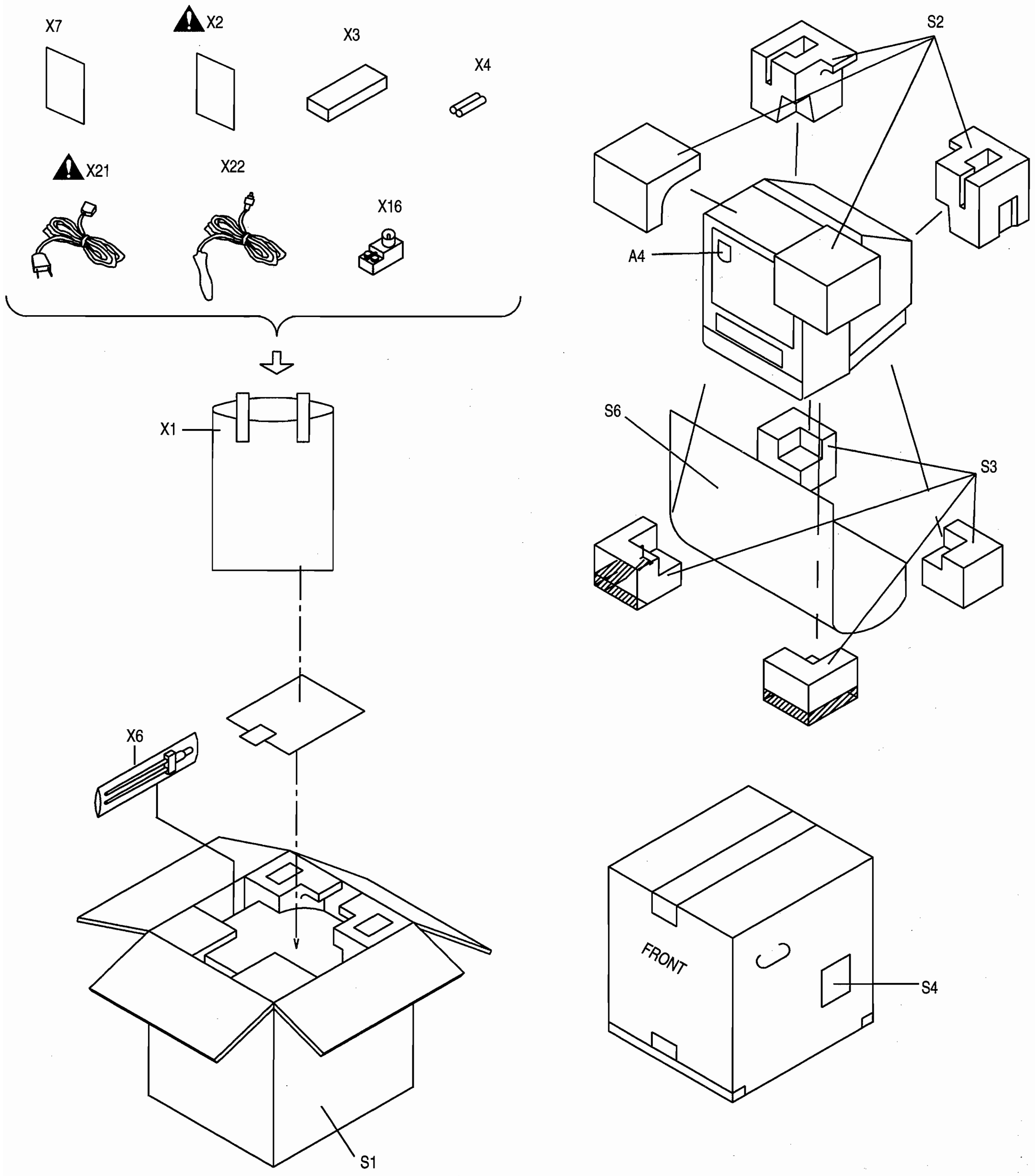
EXPLODED VIEWS

Cabinet



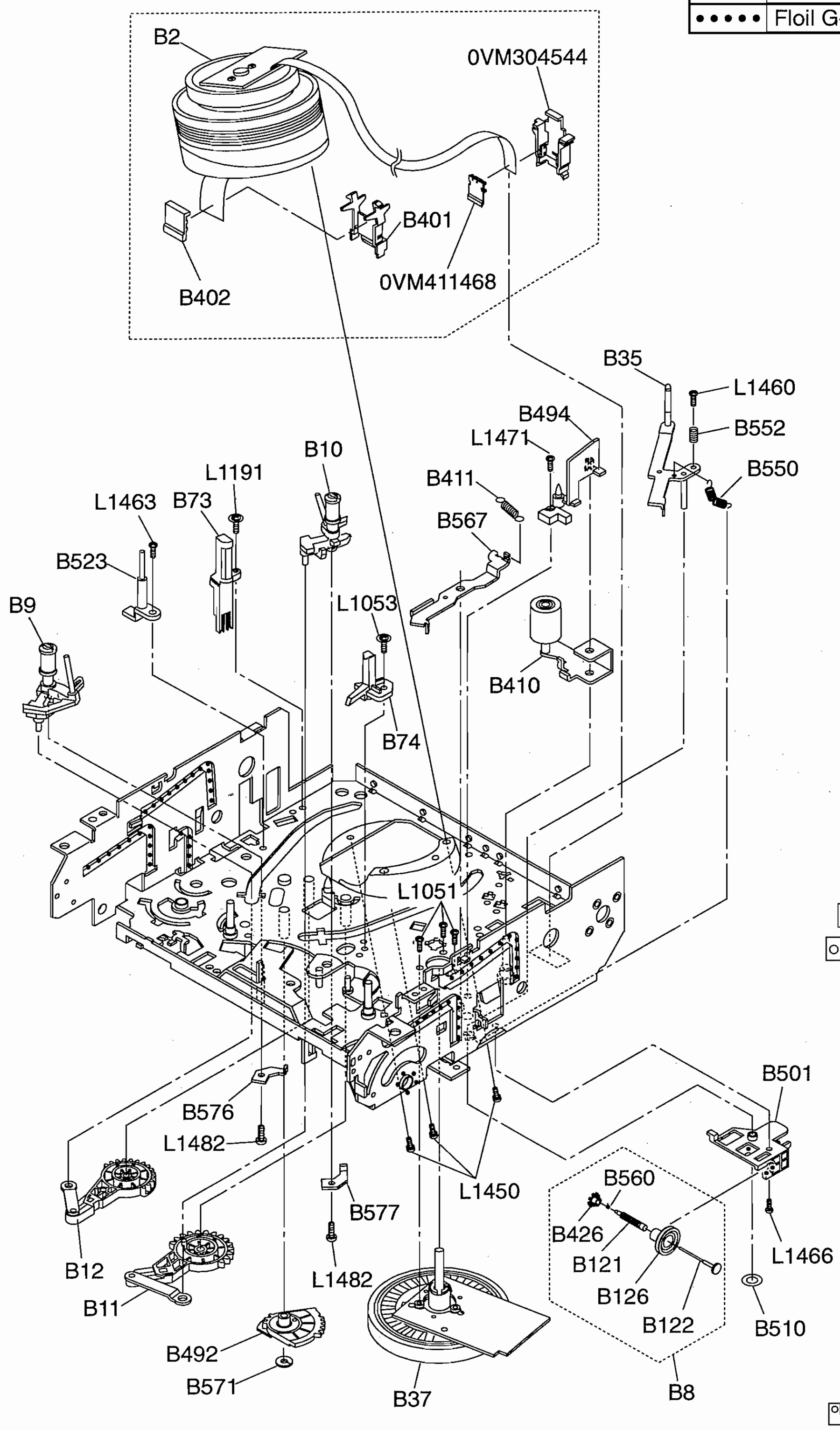
┆┆ Marked parts See Electrical Parts List

Packing

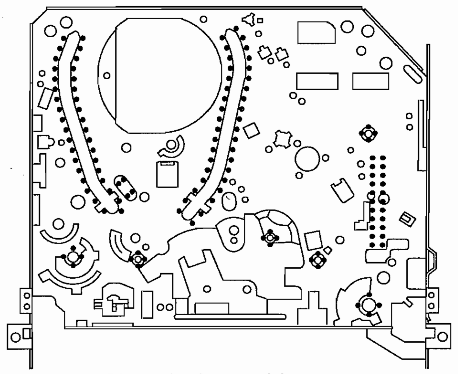


Deck Mechanism View 1

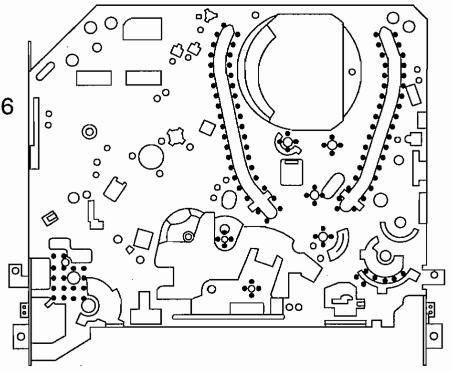
Mark	Description	Part No.
• • • • •	Floil G-374G (Blue grease)	0VZZ00109



Some Ref. Numbers are not in sequence.



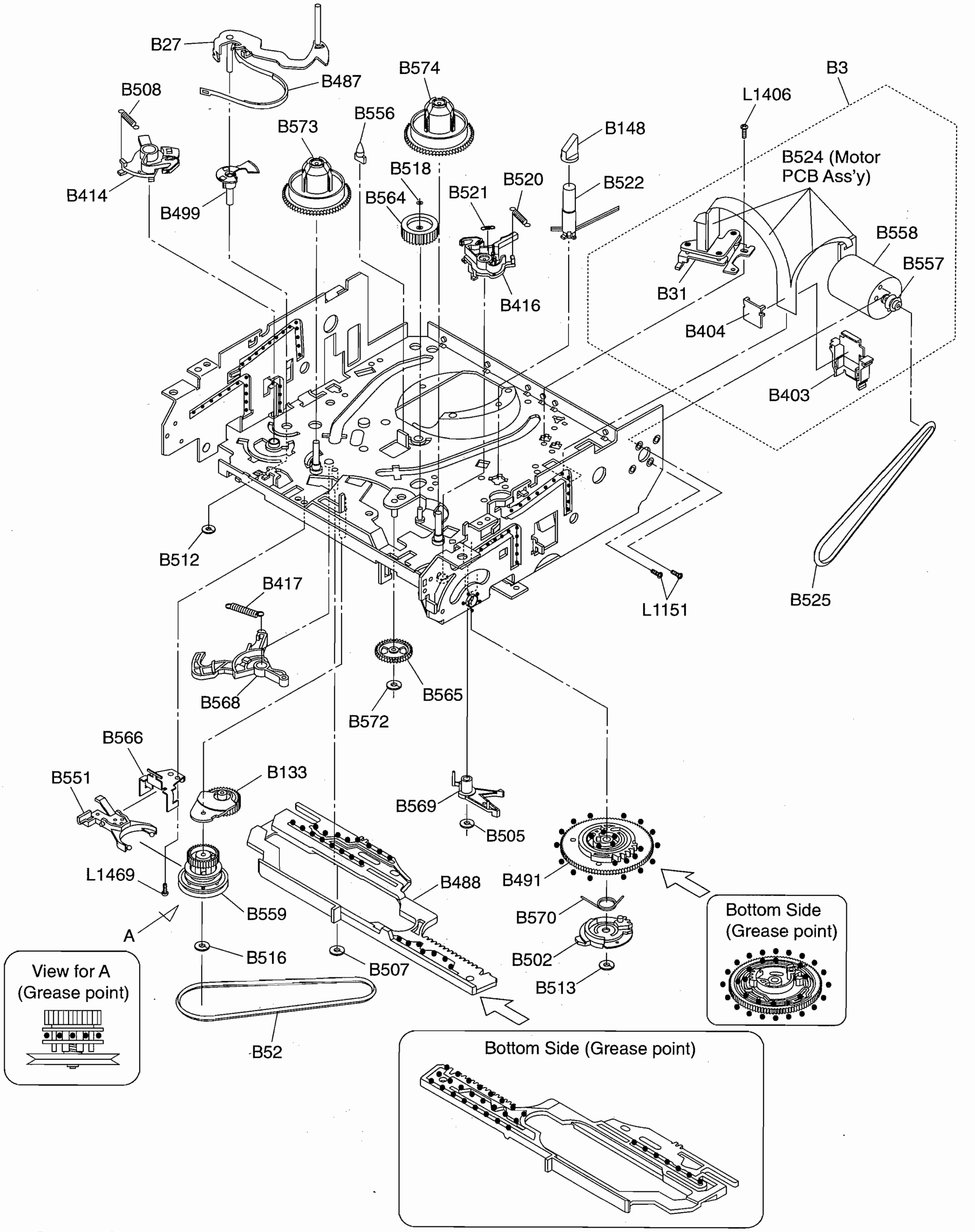
Chassis Assembly
Top View (Grease Point)



Chassis Assembly
Bottom View (Grease Point)

Deck Mechanism View 2

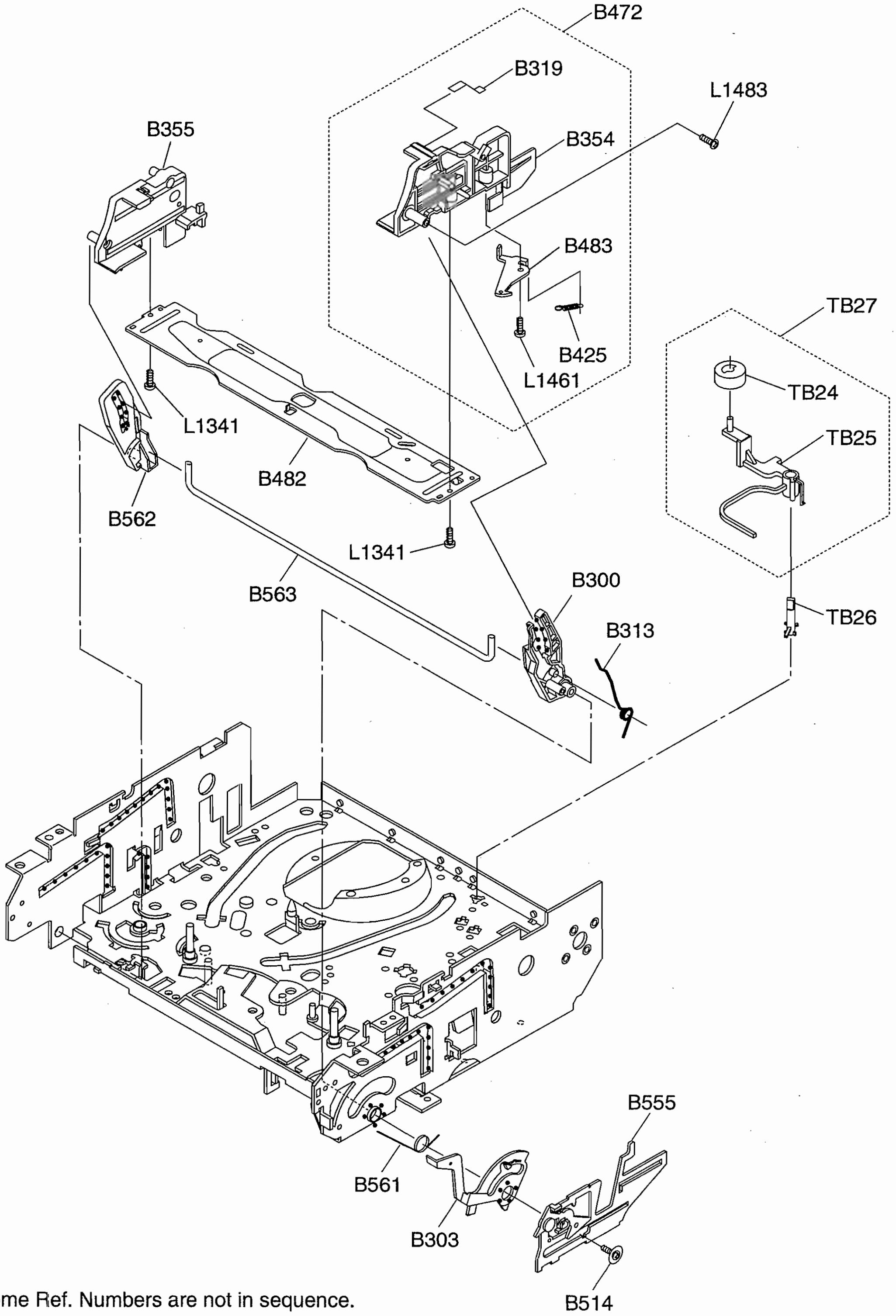
Mark	Description	Part No.
•••••	Floil G-374G (Blue grease)	0VZZ00109



Some Ref. Numbers are not in sequence.

Deck Mechanism View 3

Mark	Description	Part No.
● ● ● ● ●	Floil G-374G (Blue grease)	0VZZ00109



Some Ref. Numbers are not in sequence.

MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

Ref. No.	Description	Part No.
A1X	FRONT CABINET ASSEMBLY	0EM201384
A1-1	FRONT CABINET	0EM000398
A1-2	CONTROL PLATE	0EM301286
A1-3	BRAND PLATE	0EM406197
A1-4	CASSETTE DOOR	0EM406245
A1-5	DOOR SPRING	0VM403773
A2	REAR CABINET	0EM000352
A3⚠	RATING LABEL	0EM406167
A4	POP LABEL	0EM406202
1B 1	DECK ASSEMBLY	N1226FT
B1	TENSION SPRING B0080B0:EM40808	26WH006
B2	M5 CRT SCREW(B)	0VM403923
B3	SHIELD PLATE(Z9 9V)	0EM405692A
B5	CLOTH 190X15XT0.5	TS7623
B8	CLOTH B0071V9:TS7346	24WE420
B10	CLOTH(10X30XT0.5)	0EM404486
B11	CLOTH(10X30XT0.5)	0EM404486
L1	SCREW, P-TIGHT 4X18 BIND HEAD +	GBMP4180
L2	SCREW TAPPING M4X14	DBU14140
L4	SCREW, P-TIGHT 3X10 BIND HEAD	GBUP3100
L6	SCREW, P-TIGHT 3X10 BIND HEAD+	GBKP3100
DB 1⚠	H/V PCB HOLDER	0EM301433
DB 2	13V H/V HEAT SINK(PDX) (See Electrical Parts List)	
DL 1	SCREW, P-TIGHT 3X10 BIND HEAD	GBUP3100
DL 2	B-TITE SCREW 3X8 BIND + CHROME (See Electrical Parts List)	
PB 1	POWER PCB HOLDER	0EM000498
PB 2	BOTTOM SHIELD(AC)	0EM404771
PB 3	BOTTOM SHIELD(DC)	0EM404775
PB 4	9V POW HEAT SINK PFF ASSEMBLY (See Electrical Parts List)	
PB 5	HEAT SINK(EP) (See Electrical Parts List)	
PB8	TOOTHED LOCK WASHER M3XD8XT:0.5 (See Electrical Parts List)	
PL 1	SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120
PL 2	B-TITE SCREW 3X8 BIND + CHROME or (See Electrical Parts List)	
	B-TITE SCREW 3X8 BIND + CHROME (See Electrical Parts List)	
PL 4	SCREW, B-TIGHT 3X10 WASHER HEAD (See Electrical Parts List)	
TB1	TRAY CHASSIS	0EM000497
TB2	9V TOP SHIELD(2)	0EM101093
TB 3	HEAD SHIELD (See Electrical Parts List)	
TB 5	HOLDER, SENSOR(2) (See Electrical Parts List)	
TB 7	LED HOLDER (See Electrical Parts List)	
TB8⚠	SPEAKER HOLDER(9V)	0EM201173
TB10	RCA HOLDER	0EM406165
TB16	PACK GUIDE L	0EM301419
TB17	PACK GUIDE R	0EM301420
TB18	WASHER(D8)	0VM408931
TB19	REC ARM	0VM202907
TB20	REC ARM SPRING MK6	0VM407708C
TB 21	BUSH, LED(F) (See Electrical Parts List)	
TB24	CLEANER ROLLER MK9	0VM410032C
TB25	CLEANER LEVER MK10	0VM304413
TB26	CL POST MK10	0VM411114
TB27	CLEANER ASSEMBLY MK10	0VSA11161
TB28	SHIELD, CYLINDER MK10	0VM203074
TL1	SCREW, P-TIGHT 3X12 WASHER HEAD+	GCMP3120
TL3	SCREW, S-TIGHT 3X4 BIND HEAD+	GBMS3040
TL8	FLAT HEAD SCREW	0EM404793
TL9	SCREW, B-TIGHT M3X6 BIND HEAD+	GBMB3060
TL11	SCREW, S-TIGHT M2.6X4 BIND HEAD+	GBMS9040
CLN801	WIRE ASSEMBLY 2P/170	WX1B4800-002
DG1601 ⚠	DEGAUSSING COIL F-026 or	LLBH00ZTM026
⚠	DEGAUSSING COIL A4100468/A4100469 or	LLBH00ZTZ019
⚠	DEGAUSSING COIL AVDG080	LLBH00ZWR030
SP801	SPEAKER S08J72A1	DSD0808XQ002
V501⚠	CRT A23KQU22X01	TCRT190SM012
	WIRE ASSEMBLY(1P) CRT GND	WX1B4800-001
	PACKING	
S1	CARTON	0EM301458
S2	STYROFOAM TOP	0EM000507
S3	STYROFOAM BOTTOM	0EM000508
S4	SERIAL NO. LABEL	0EM405104
S6	SET SHEET:1200X600XT0.3	0EM401153A
	ACCESSORIES	
X1	POLYETHYLENE BAG F8626B5	Z325350
X2⚠	OWNER'S MANUAL	0EMN01763
X3	REMOCON UNIT 512/ERC001/N0111UD	N0111UD
X4	DRY BATTERY R6P UM3 or	XB0M451GH001
	DRY BATTERY R6P(AR)2PX or	XB0M451HU002
	DRY BATTERY R6P(AR)2P X ICI or	XB0M451HU003
	DRY BATTERY(SUNRISE) R6SSE/2S or	XB0M451MS002
	DRY BATTERY R6P/2S	XB0M451T0001
X6	DIPOLE ANTENNA or	0EMN00723
	DIPOLE ANTENNA	0EMN01183
X7	RETURN STOP SHEET	0EM406203
X16	MATCHING ADAPTOR ICM-02N or	UCPGANTPK004
	MATCHING ADAPTOR or	1780258
	MATCHING ADAPTOR	1813641
X21⚠	AC CORD SET LA-2142	WPV0182LW001
X22	CAR PLUG CORD	WPZ0202GA004

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that not assigned part numbers (---------) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25% D.....±0.5% F.....±1%
G.....±2% J......±5% K.....±10%
M.....±20% N.....±30% Z.....+80/-20%

Main CBA (MMA)

Ref. No.	Description	Part No.
	Main CBA (MMA) Consisit of the following	0ESA04070
	CAPACITORS	
C 004	CHIP CERAMIC CAP. B K 0.01µF50V	CHD1JKB0B103
C 005	ELECTROLYTIC CAP. 47µF25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47µF25V M	CE1EMASTL470
C 006	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASTL010
	ELECTROLYTIC CAP. 1µF50V M	CE1JMASTL1R0
C 007	CERAMIC CAP.(AX) B K 0.01µF50V	CA1J103TU011
C 201	CHIP CERAMIC CAP. B K 0.01µF50V	CHD1JKB0B103
C 203	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 204	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 205	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 207	ELECTROLYTIC CAP. 47µF25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47µF25V M	CE1EMASTL470
C 208	ELECTROLYTIC CAP. 100µF6.3V M H7	CE0KMASSL101
C 209	CERAMIC CAP.(AX) Y N 0.022µF6V	CCA0KNT0Y223
C 210	ELECTROLYTIC CAP. 1µF50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1µF50V M H7	CE1JMASSL1R0
C 211	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 212	CERAMIC CAP.(AX) CH J 20pF/50V	CCA1JJTCH200
C 213	CERAMIC CAP.(AX) CH J 20pF/50V	CCA1JJTCH200
C 214	ELECTROLYTIC CAP. 47µF6.3V M H7	CE0KMASSL470
C 216	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 217	CERAMIC CAP.(AX) CH J 10pF/50V	CCA1JJTCH100
C 218	CHIP CERAMIC CAP. CH J 15pF/50V	CHD1JJBCH150
C 219	CHIP CERAMIC CAP. B K 0.01µF50V	CHD1JKB0B103
C 220	ELECTROLYTIC CAP. 47µF6.3V M H7	CE0KMASSL470
C 221	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 222	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JKB0B222
C 223	ELECTROLYTIC CAP. 1µF50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1µF50V M H7	CE1JMASSL1R0
C 224	CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JKB0B102
C 225	CERAMIC CAP.(AX) B K 560pF/50V	CCA1JKT0B561
C 231	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C 232	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
C 233	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 235	CERAMIC CAP.(AX) X M 6800pF/16V	CCA1CMT0X682
C 236	CHIP CERAMIC CAP. F Z 0.047µF50V	CHD1JZB0F473
C 238	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C 239	ELECTROLYTIC CAP. 22µF50V M H7	CE1JMASSL220
C 240	CHIP CERAMIC CAP. B K 560pF/50V	CHD1JKB0B561
C 241	CERAMIC CAP.(AX) Y N 0.022µF6V	CCA0KNT0Y223
C 242	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 243	ELECTROLYTIC CAP. 22µF16V M LL H7	CE1CMASHL220
C 244	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 245	ELECTROLYTIC CAP. 47µF25V M H7	CE1EMASSL470
C 246	CHIP CERAMIC CAP. B K 0.01µF50V	CHD1JKB0B103
C 247	ELECTROLYTIC CAP. 22µF50V M H7	CE1JMASSL220
C 253	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 254	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 282	ELECTROLYTIC CAP. 47µF16V M H7	CE1CMASSL470
C 284	CHIP CERAMIC CAP. F Z 0.1µF50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1µF25V	CHD1EZB0F104
C 286	CHIP CERAMIC CAP. B K 0.01µF50V	CHD1JKB0B103
C 287	CHIP CERAMIC CAP. B K 0.01µF50V	CHD1JKB0B103
C 288	CHIP CERAMIC CAP. F Z 0.1µF50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1µF25V	CHD1EZB0F104
C 289	CHIP CERAMIC CAP. B K 0.01µF50V	CHD1JKB0B103
C 290	CERAMIC CAP.(AX) F Z 0.1µF50V	CCA1JZTFZ104
C 291	ELECTROLYTIC CAP. 100µF10V M or	CE1AMASDL101
	ELECTROLYTIC CAP. 100µF10V M	CE1AMASTL101
C 293	FILM CAP.(P) 0.1µF50V J or	CMA1JJS00104
	FILM CAP.(P) 0.1µF50V J or	CA1J104MS029
	FILM CAP.(P) 0.1µF50V J TV	CMB1JJS00104
C 294	ELECTROLYTIC CAP. 10µF50V M H7	CE1JMASSL100
C 301	CHIP CERAMIC CAP. B K 0.01µF50V	CHD1JKB0B103
C 302	ELECTROLYTIC CAP. 220µF16V M or	CE1CMASDL221
	ELECTROLYTIC CAP. 220µF16V M	CE1CMASTL221
C 303	CHIP CERAMIC CAP. B K 0.01µF50V	CHD1JKB0B103
C 304	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASTL010
	ELECTROLYTIC CAP. 1µF50V M	CE1JMASTL1R0
C 305	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 309	ELECTROLYTIC CAP. 100µF16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100µF16V M	CE1CMASTL101
C 311	PCB JUMPER D0.6-P5.0	JW5.0T
C 312	FILM CAP.(P) 0.1µF50V J or	CMA1JJS00104
	FILM CAP.(P) 0.1µF50V J or	CA1J104MS029
	FILM CAP.(P) 0.1µF50V J TV	CMB1JJS00104
C 313	CHIP CERAMIC CAP. B K 0.01µF50V	CHD1JKB0B103
C 314	ELECTROLYTIC CAP. 100µF16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100µF16V M	CE1CMASTL101
C 316	PCB JUMPER D0.6-P5.0	JW5.0T
C 317	PCB JUMPER D0.6-P5.0	JW5.0T
C 318	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASTL010
	ELECTROLYTIC CAP. 1µF50V M	CE1JMASTL1R0
C 319	CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JKB0B102
C 320	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL1R0

Ref. No.	Description	Part No.
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASTL010
	ELECTROLYTIC CAP. 1µF50V M	CE1JMASTL1R0
C 321	FILM CAP.(P) 0.015µF50V J or	CMA1JJS00153
	FILM CAP.(P) 0.015µF50V J or	CA1J153MS029
	FILM CAP.(P) 0.015µF50V J TV	CMB1JJS00153
C 322	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASTL010
	ELECTROLYTIC CAP. 1µF50V M	CE1JMASTL1R0
C 323	ELECTROLYTIC CAP. 4.7µF35V M or	CE1GMASDL4R7
	ELECTROLYTIC CAP. 4.7µF35V M	CE1GMASTL4R7
C 325	ELECTROLYTIC CAP. 470µF10V M or	CE1AMASDL471
	ELECTROLYTIC CAP. 470µF10V M	CE1AMASTL471
C 326	FILM CAP.(P) 0.047µF50V J or	CMA1JJS00473
	FILM CAP.(P) 0.047µF50V J or	CA1J473MS029
	FILM CAP.(P) 0.047µF50V J TV	CMB1JJS00473
C 327	ELECTROLYTIC CAP. 2.2µF50V M LL	CE1JMASLL2R2
C 328	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASTL010
	ELECTROLYTIC CAP. 1µF50V M	CE1JMASTL1R0
C 329	CERAMIC CAP.(AX) X M 3300pF/16V	CCA1CMT0X332
C 330	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 331	ELECTROLYTIC CAP. 47µF25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47µF25V M	CE1EMASTL470
C 332	CHIP CERAMIC CAP. B K 680pF/50V	CHD1JKB0B681
C 333	ELECTROLYTIC CAP. 0.47µF50V M or	CE1JMASDLR47
	ELECTROLYTIC CAP. 0.47µF50V M	CE1JMASTLR47
C 336	CHIP CERAMIC CAP. B K 0.022µF50V or	CHD1JKB0B223
	CHIP CERAMIC CAP. B K 0.022µF25V	CHD1EKB0B223
C 337	ELECTROLYTIC CAP. 4.7µF50V M or	CE1JMASDL4R7
	ELECTROLYTIC CAP. 4.7µF50V M	CE1JMASTL4R7
C 338	FILM CAP.(P) 0.047µF50V J or	CMA1JJS00473
	FILM CAP.(P) 0.047µF50V J or	CA1J473MS029
	FILM CAP.(P) 0.047µF50V J TV	CMB1JJS00473
C 394	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASTL010
	ELECTROLYTIC CAP. 1µF50V M	CE1JMASTL1R0
C 410	ELECTROLYTIC CAP. 1µF50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1µF50V M H7	CE1JMASSL1R0
C 411	ELECTROLYTIC CAP. 220µF6.3V M H7	CE0KMASSL221
C 412	CHIP CERAMIC CAP. B K 0.01µF50V	CHD1JKB0B103
C 413	CERAMIC CAP.(AX) B K 390pF/50V	CCA1JKT0B391
C 414	ELECTROLYTIC CAP. 1µF50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1µF50V M H7	CE1JMASSL1R0
C 416	CHIP CERAMIC CAP. CH J 180pF/50V	CHD1JJBCH181
C 417	CERAMIC CAP.(AX) SL J 22pF/50V	CCA1JJTSL220
C 418	ELECTROLYTIC CAP. 0.1µF50V M H7 or	CE1JMASSL0R1
	ELECTROLYTIC CAP. 0.1µF50V M H7	CE1JMASSLR10
C 419	ELECTROLYTIC CAP. 0.1µF50V M H7 or	CE1JMASSL0R1
	ELECTROLYTIC CAP. 0.1µF50V M H7	CE1JMASSLR10
C 420	ELECTROLYTIC CAP. 22µF16V M H7	CE1CMASSL220
C 421	ELECTROLYTIC CAP. 4.7µF50V M H7	CE1JMASSL4R7
C 423	ELECTROLYTIC CAP. 4.7µF50V M H7	CE1JMASSL4R7
C 424	ELECTROLYTIC CAP. 1µF50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1µF50V M H7	CE1JMASSL1R0
C 425	ELECTROLYTIC CAP. 1µF50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1µF50V M H7	CE1JMASSL1R0
C 426	ELECTROLYTIC CAP. 22µF16V M H7	CE1CMASSL220
C 427	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 428	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 429	ELECTROLYTIC CAP. 47µF6.3V M H7	CE0KMASSL470
C 430	CERAMIC CAP.(AX) Y N 0.022µF6V	CCA0KNT0Y223
C 431	ELECTROLYTIC CAP. 1µF50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1µF50V M H7	CE1JMASSL1R0
C 434	ELECTROLYTIC CAP. 1µF50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1µF50V M H7	CE1JMASSL1R0
C 435	ELECTROLYTIC CAP. 2.2µF50V M H7	CE1JMASSL2R2
C 436	CERAMIC CAP.(AX) XM 3900pF/16V	CCA1CMT0X392
C 438	ELECTROLYTIC CAP. 1µF50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1µF50V M H7	CE1JMASSL1R0
C 439	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 440	ELECTROLYTIC CAP. 1µF50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1µF50V M H7	CE1JMASSL1R0
C 441	ELECTROLYTIC CAP. 1µF50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1µF50V M H7	CE1JMASSL1R0
C 442	CHIP CERAMIC CAP. F Z 0.047µF50V	CHD1JZB0F473
C 443	CHIP CERAMIC CAP. F Z 0.047µF50V	CHD1JZB0F473
C 444	ELECTROLYTIC CAP. 22µF16V M H7	CE1CMASSL220
C 445	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 446	ELECTROLYTIC CAP. 1µF50V M H7 or	CE1JMASSL010
	ELECTROLYTIC CAP. 1µF50V M H7	CE1JMASSL1R0
C 447	CHIP CERAMIC CAP. B K 0.01µF50V	CHD1JKB0B103
C 448	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 628	ELECTROLYTIC CAP. 10µF50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10µF50V M	CE1JMASTL100
C 629	ELECTROLYTIC CAP. 47µF25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47µF25V M	CE1EMASTL470
C 630	ELECTROLYTIC CAP. 100µF16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100µF16V M	CE1CMASTL101
C 631	ELECTROLYTIC CAP. 220µF6.3V M or	CE0KMASDL221
	ELECTROLYTIC CAP. 220µF6.3V M	CE0KMASTL221
C 634	ELECTROLYTIC CAP. 100µF16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100µF16V M	CE1CMASTL101
C 635	ELECTROLYTIC CAP. 47µF25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47µF25V M	CE1EMASTL470
C 801	ELECTROLYTIC CAP. 330µF16V M or	CE1CMASDL331
	ELECTROLYTIC CAP. 330µF16V M	CE1CMASTL331
C 802	ELECTROLYTIC CAP. 470µF16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470µF16V M	CE1CMASTL471
C 803	ELECTROLYTIC CAP. 4.7µF50V M H7	CE1JMASSL4R7
C 804	ELECTROLYTIC CAP. 0.22µF50V M or	CE1JMASDLR22
	ELECTROLYTIC CAP. 0.22µF50V M	CE1JMASTLR22
C 805	CHIP CERAMIC CAP. B K 4700pF/50V	CHD1JKB0B472
C 806	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
C 853	CHIP CERAMIC CAP. F Z 0.1µF50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1µF25V	CHD1EZB0F104
C 854	ELECTROLYTIC CAP. 22µF16V M H7	CE1CMASSL220
C 856	CHIP CERAMIC CAP. F Z 0.1µF50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1µF25V	CHD1EZB0F104
C 857	ELECTROLYTIC CAP. 33µF6.3V M H7	CE0KMASSL330
C 858	ELECTROLYTIC CAP. 4.7µF50V M H7	CE1JMASSL4R7
C 859	CHIP CERAMIC CAP. F Z 0.1µF50V or	CHD1JZB0F104
	CHIP CERAMIC CAP. F Z 0.1µF25V	CHD1EZB0F104
C 860	CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JKB0B102
C 862	CHIP CERAMIC CAP. B K 0.01µF50V	CHD1JKB0B103
C 863	ELECTROLYTIC CAP. 10µF35V M H7	CE1GMASSL100
C 864	ELECTROLYTIC CAP. 10µF35V M H7	CE1GMASSL100
C 865	CHIP CERAMIC CAP. B K 820pF/50V	CHD1JKB0B821
C 866	CERAMIC CAP.(AX) X M 2700pF/16V	CCA1CMT0X272

Ref. No.	Description	Part No.
C 872	ELECTROLYTIC CAP. 47µF6.3V M H7	CE0KMASSL470
C 873	ELECTROLYTIC CAP. 100µF10V M or	CE1AMASDL101
	ELECTROLYTIC CAP. 100µF10V M	CE1AMASTL101
C 874	CERAMIC CAP. B K 470pF/100V or	CCD2AKS0B471
	CERAMIC CAP. B K 470pF/500V	CCD2JKS0B471
C 875	FILM CAP.(P) 0.018µF50V J or	CA1J183MS029
	FILM CAP.(P) 0.018µF100V J or	CMA2AJS00183
	FILM CAP.(P) 0.018µF100V J TV	CMB2AJS00183
	CONNECTORS	
CN 201 ⚠	CONNECTOR, 8P TMC-J08P-A2 or	J3TMA08TG004
⚠	CONNECTOR, 8P TMC-J08P-A1	J3TMA08TG002
CN 202	FE CONNECTOR, TOP 5P 05FE-BT-VK-N	JCFEJ05JG001
CN 301	CONNECTOR BASE 4P TUC-P04P-B1	J3TUA04TG001
CN 302	CONNECTOR BASE, 7P TUC-P07P-B1	J3TUA07TG001
CN 303	CONNECTOR BASE, 5P TUC-P05P-B1	J3TUA05TG001
CN 402 ⚠	FE CONNECTOR, TOP 9P 09FE-BT-VK-N	JCFEJ09JG001
CN 403	CABLE CONNECTOR, 2P TMC-E02X-A1	JCTMC02TG001
CN 404	FE CONNECTOR, TOP 4P 04FE-BT-VK-N	JCFEJ04JG001
CN 603 ⚠	CONNECTOR BASE 15P TUC-P15P-B1	J3TUA15TG001
CN 801	STRAIGHT CONNECTOR BASE 00 8283 0212 00 000 or	J383C02UG002
	STRAIGHT PIN HEADER, 2P 173981-2	1770258
CN 991	STRAIGHT PIN HEADER, 2P IL-S- 2P-S2T2-EF	1740764
	DIODES	
D 001	ZENER DIODE MTZJT-776.2B	QDTB0MTZJ6R2
D 002	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
D 003	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
D 201	CERAMIC CAP.(AX) Y M 0.01µF16V	CCA1CMT0Y103
D 203	LED SIR-563ST3F P or	QPQPS1R563ST
	LED SIR-563ST3F Q	QPQQS1R563ST
D 204	LED LTL-4214M1 or	NPQZLTL4214M
	LED(RED)L-FORMING LT1814G-81-FL or	NP4Z0LT1814G
	LED L-53HT	NP4Z000L53HT
D 226	ZENER DIODE MTZJT-776.2B	QDTB0MTZJ6R2
D 280	ZENER DIODE MTZJT-776.2B	QDTB0MTZJ6R2
D 281	ZENER DIODE MTZJT-776.2B	QDTB0MTZJ6R2
D 282	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 301	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
D 303	CERAMIC CAP.(AX) B K 100pF/50V	CCA1JKT0B101
D 304	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 305	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 306	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 307	ZENER DIODE MTZJT-778.2A	QDTA0MTZJ8R2
D 308	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 309	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 312	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 313	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 316	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 401	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 402	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 403	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 630 ⚠	ZENER DIODE MTZJT-7718B	QDTB00MTZJ18
D 631	ZENER DIODE MTZJT-776.8A	QDTA0MTZJ6R8
D 632	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 633	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 638 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148 or	NDTZ001N4148
⚠	DIODE 1SS176TPA7	1SS176T
D 640 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148 or	NDTZ001N4148
⚠	DIODE 1SS176TPA7	1SS176T
D 801 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148 or	NDTZ001N4148
⚠	DIODE 1SS176TPA7	1SS176T
D 805	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 806	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
	ICS	
IC 201 ⚠	MICRO COMPUTER 16BIT M37760M8H8B1GP	QSZAA0RMB034
IC 202	IC:MEMORY BR24C01AF-W or	QSMBA0SRM002
	IC:MEMORY AT24C01A-10SC or	NSMMA0SAZ011
	IC(EEPROM) M24C01-MN6 or	NSMMA0SSS027
	IC:MEMORY BR24C01AF	QSMMA0SRM002
IC 281 ⚠	IC BD6655FP	QSZAA0SRM001
IC 301 ⚠	IC:CHROMA/IF 1 CHIP M61206FP or	QSZAA0RMB011
⚠	IC:CHROMA/IF 1 CHIP M61206FP-61	QSZAB0RMB011
IC 401	IC:Y/C/A LA71090M	QSZBA0RSY011
IC 602 ⚠	VOLTAGE REGULATOR KIA7805API or	NSBBA0SJY011
⚠	IC:VOLTAGE REGULATOR AN7805F	AN7805F
IC 801	AUDIO AMP LA4524L	QSBLA0SSY087
	COILS	
L 001	PCB JUMPER D0.6-P5.0	JW5.0T
L 201	PCB JUMPER D0.6-P5.0	JW5.0T
L 202	INDUCTOR 0.10µH-K-26T	LLAXKATTUR10
L 281	PCB JUMPER D0.6-P5.0	JW5.0T
L 301	PCB JUMPER D0.6-P5.0	JW5.0T
L 302	PCB JUMPER D0.6-P5.0	JW5.0T
L 304	INDUCTOR 3.3µH-J-26T or	LLAXJATTU3R3

Ref. No.	Description	Part No.
	INDUCTOR 3.3μH-K-26T	LLAXKDTKA3R3
L 305	INDUCTOR 10μH-J-26T or	LLAXJATTU100
	INDUCTOR 10μH-K-26T	LLAXKDTKA100
L 306	PCB JUMPER D0.6-P5.0	JW5.0T
L 307	INDUCTOR 0.82μH-J-26T or	LLAXJATTUR82
	INDUCTOR 0.82μH-M-26T	LLAXMDTKAR82
L 402	INDUCTOR 22μH-J-26T or	LLAXJATTU220
	INDUCTOR 22μH-K-26T	LLAXKDTKA220
L 403	PCB JUMPER D0.6-P10.0	JW10.0T
L 404	CHOKE COIL 47μH-K	LLBD00PKV007
L 405	PCB JUMPER D0.6-P5.0	JW5.0T
L 871	PCB JUMPER D0.6-P5.0	JW5.0T
L 872	INDUCTOR 47μH-K-5FT or	LLARKBSTU470
	INDUCTOR 47μH-K-5FT	LLARKDSKA470
	TRANSISTORS	
Q 201	PHOTO TRANSISTOR ST-304L-A or	QPZA00ST304L
	PHOTO TRANSISTOR ST-304L-B or	QPZB00ST304L
	PHOTO TRANSISTOR ST-304L-C	QPZC00ST304L
Q 202	PHOTO TRANSISTOR ST-304L-A or	QPZA00ST304L
	PHOTO TRANSISTOR ST-304L-B or	QPZB00ST304L
	PHOTO TRANSISTOR ST-304L-C	QPZC00ST304L
Q 205	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 206	PHOTO TRANSISTOR PT204-6B-12	NPWZT2046B12
Q 302	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 303	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 401	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2) or	QQS102SA1015
	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR 2SA1175(E)	QQSE02SA1175
Q 402	TRANSISTOR KTA1267(GR) or	NQS10KTA1267

Ref. No.	Description	Part No.
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2) or	QQS102SA1015
	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR 2SA1175(E)	QQSE02SA1175
Q 608 ⚠	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
⚠	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q 609 ⚠	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
⚠	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q 611 ⚠	TRANSISTOR 2SD400(F)	QQUF002SD400
Q 801	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 871	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2) or	QQS102SA1015
	TRANSISTOR 2SA1175(F) or	QQSF02SA1175
	TRANSISTOR 2SA1175(E)	QQSE02SA1175
Q 872	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q 873	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 874	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 875	RES. BUILT-IN TRANSISTOR KRA103M or	NQSZ0KRA103M
	RES. BUILT-IN TRANSISTOR 2SA1346 or	2SA1346Z
	RES. BUILT-IN TRANSISTOR BN1F4M-T	QQSZ00BN1F4M
Q 991	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
	RESISTORS	
R 001	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 002	PCB JUMPER D0.6-P5.0	JW5.0T
R 003	PCB JUMPER D0.6-P5.0	JW5.0T
R 004	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 201	CARBON RES. 1/4W G 4.7k Ω or	RCX4GATZ0472
	CARBON RES. 1/6W G 4.7k Ω	RCX6GATZ0472
R 202	CARBON RES. 1/4W G 22k Ω or	RCX4GATZ0223
	CARBON RES. 1/6W G 22k Ω	RCX6GATZ0223

Ref. No.	Description	Part No.
R 203	CARBON RES. 1/4W G 470 Ω or	RCX4GATZ0471
	CARBON RES. 1/6W G 470 Ω	RCX6GATZ0471
R 204	CARBON RES. 1/4W G 1.5k Ω or	RCX4GATZ0152
	CARBON RES. 1/6W G 1.5k Ω	RCX6GATZ0152
R 205	CARBON RES. 1/4W G 3.6k Ω or	RCX4GATZ0362
	CARBON RES. 1/6W G 3.6k Ω	RCX6GATZ0362
R 206	CARBON RES. 1/4W G 10k Ω or	RCX4GATZ0103
	CARBON RES. 1/6W G 10k Ω	RCX6GATZ0103
R 207	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R 208	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R 209	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 210	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 211	CHIP RES.(1608) 1/10W J 1.5k Ω	RRXAJB5Z0152
R 212	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 213	CARBON RES. 1/4W J 2.7k Ω or	RCX4JATZ0272
	CARBON RES. 1/6W J 2.7k Ω	RCX6JATZ0272
R 214	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 215	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 216	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 217	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 218	CARBON RES. 1/4W J 2.7k Ω or	RCX4JATZ0272
	CARBON RES. 1/6W J 2.7k Ω	RCX6JATZ0272
R 219	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 220	CHIP RES.(1608) 1/10W J 390k Ω	RRXAJB5Z0394
R 221	PCB JUMPER D0.6-P5.0	JW5.0T
R 222	CARBON RES. 1/4W J 270k Ω or	RCX4JATZ0274
	CARBON RES. 1/6W J 270k Ω	RCX6JATZ0274
R 223	CHIP RES.(1608) 1/10W J 560 Ω	RRXAJB5Z0561
R 224	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 225	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJB5Z0101
R 226	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 227	CARBON RES. 1/4W J 180 Ω or	RCX4JATZ0181
	CARBON RES. 1/6W J 180 Ω	RCX6JATZ0181
R 229	CARBON RES. 1/4W J 390 Ω or	RCX4JATZ0391
	CARBON RES. 1/6W J 390 Ω	RCX6JATZ0391
R 230	PCB JUMPER D0.6-P5.0	JW5.0T
R 232	PCB JUMPER D0.6-P5.0	JW5.0T
R 233	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 234	CHIP RES.(1608) 1/10W J 1.2k Ω	RRXAJB5Z0122
R 235	CHIP RES.(1608) 1/10W J 47 Ω	RRXAJB5Z0470
R 236	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJB5Z0104
R 237	PCB JUMPER D0.6-P5.0	JW5.0T
R 238	CHIP RES.(1608) 1/10W J 470k Ω	RRXAJB5Z0474
R 239	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 240	PCB JUMPER D0.6-P5.0	JW5.0T
R 241	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562

Ref. No.	Description	Part No.
R 243	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJB5Z0102
R 244	CHIP RES.(1608) 1/10W J 1M Ω	RRXAJB5Z0105
R 245	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R 246	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 247	CHIP RES.(1608) 1/10W J 820 Ω	RRXAJB5Z0821
R 248	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R 249	CARBON RES. 1/4W J 3.3k Ω or	RCX4JATZ0332
	CARBON RES. 1/6W J 3.3k Ω	RCX6JATZ0332
R 250	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R 251	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJB5Z0332
R 252	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R 253	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJB5Z0332
R 254	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R 255	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJB5Z0221
R 256	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R 257	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJB5Z0101
R 258	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJB5Z0221
R 259	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R 260	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJB5Z0101
R 263	CHIP RES.(1608) 1/10W J 39k Ω	RRXAJB5Z0393
R 264	CHIP RES.(1608) 1/10W J 220k Ω	RRXAJB5Z0224
R 267	CARBON RES. 1/4W J 68k Ω or	RCX4JATZ0683
	CARBON RES. 1/6W J 68k Ω	RCX6JATZ0683
R 269	PCB JUMPER D0.6-P5.0	JW5.0T
R 270	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJB5Z0104
R 272	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJB5Z0103
R 273	CARBON RES. 1/4W J 1.8k Ω or	RCX4JATZ0182
	CARBON RES. 1/6W J 1.8k Ω	RCX6JATZ0182
R 274	CARBON RES. 1/4W J 680 Ω or	RCX4JATZ0681
	CARBON RES. 1/6W J 680 Ω	RCX6JATZ0681
R 275	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R 276	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJB5Z0473
R 277	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJB5Z0473
R 279	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJB5Z0102
R 280	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJB5Z0682
R 281	METAL OXIDE FILM RES. 1W J 1.2 Ω or	RN011R2DP003
	METAL OXIDE FILM RES. 1W J 1.2 Ω or	RN011R2ZU001
	METAL OXIDE FILM RES. 1W J 1.2 Ω	RN011R2KE009
R 282	PCB JUMPER D0.6-P5.0	JW5.0T
R 283	CHIP RES.(1608) 1/10W J 56k Ω	RRXAJB5Z0563
R 284	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 285	CARBON RES. 1/4W J 0.47 Ω	RCX4JATZ0R47
R 301	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 302	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 303	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 304	CARBON RES. 1/4W J 2.7k Ω or	RCX4JATZ0272
	CARBON RES. 1/6W J 2.7k Ω	RCX6JATZ0272
R 305	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJB5Z0101

Ref. No.	Description	Part No.
R 306	CARBON RES. 1/4W J 3.3k Ω or	RCX4JATZ0332
	CARBON RES. 1/6W J 3.3k Ω	RCX6JATZ0332
R 307	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJB5Z0472
R 308	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R 309	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJB5Z0472
R 310	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R 311	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJB5Z0472
R 312	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R 313	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 314	CARBON RES. 1/4W J 12 Ω or	RCX4JATZ0120
	CARBON RES. 1/6W J 12 Ω	RCX6JATZ0120
R 315	CARBON RES. 1/4W J 220k Ω or	RCX4JATZ0224
	CARBON RES. 1/6W J 220k Ω	RCX6JATZ0224
R 316	CARBON RES. 1/4W J 680k Ω or	RCX4JATZ0684
	CARBON RES. 1/6W J 680k Ω	RCX6JATZ0684
R 317	CHIP RES.(1608) 1/10W J 120k Ω	RRXAJB5Z0124
R 318	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R 319	CARBON RES. 1/4W J 180k Ω or	RCX4JATZ0184
	CARBON RES. 1/6W J 180k Ω	RCX6JATZ0184
R 320	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJB5Z0682
R 321	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJB5Z0101
R 323	CARBON RES. 1/4W J 33 Ω or	RCX4JATZ0330
	CARBON RES. 1/6W J 33 Ω	RCX6JATZ0330
R 324	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJB5Z0101
R 329	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 330	CARBON RES. 1/4W J 10M Ω	RCX4JATZ0106
R 331	PCB JUMPER D0.6-P5.0	JW5.0T
R 332	CARBON RES. 1/4W J 330 Ω or	RCX4JATZ0331
	CARBON RES. 1/6W J 330 Ω	RCX6JATZ0331
R 333	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJB5Z0471
R 334	CARBON RES. 1/4W J 68 Ω or	RCX4JATZ0680
	CARBON RES. 1/6W J 68 Ω	RCX6JATZ0680
R 335	PCB JUMPER D0.6-P5.0	JW5.0T
R 336	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 337	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJB5Z0102
R 338	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJB5Z0222
R 391	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 392	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 393	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 406	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJB5Z0473
R 407	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJB5Z0473
R 409	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJB5Z0183
R 413	CARBON RES. 1/4W J 39k Ω or	RCX4JATZ0393
	CARBON RES. 1/6W J 39k Ω	RCX6JATZ0393
R 414	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJB5Z0472
R 415	CHIP RES.(1608) 1/10W J 1.5k Ω	RRXAJB5Z0152
R 416	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJB5Z0104
R 417	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJB5Z0221
R 418	CARBON RES. 1/4W J 330 Ω or	RCX4JATZ0331
	CARBON RES. 1/6W J 330 Ω	RCX6JATZ0331
R 419	CARBON RES. 1/4W J 330 Ω or	RCX4JATZ0331
	CARBON RES. 1/6W J 330 Ω	RCX6JATZ0331
R 420	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 423	CHIP RES.(1608) 1/10W J 5.6M Ω	RRXAJB5Z0565
R 424	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJB5Z0104
R 425	CHIP RES.(1608) 1/10W J 82k Ω	RRXAJB5Z0823
R 426	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 427	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R 428	CHIP RES.(1608) 1/10W J 680k Ω	RRXAJB5Z0684
R 429	CHIP RES.(1608) 1/10W J 1.5k Ω	RRXAJB5Z0152
R 431	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJB5Z0822
R 432	PCB JUMPER D0.6-P5.0	JW5.0T
R 435	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJB5Z0222
R 646 ⚠	METAL OXIDE FILM RES. 1W J 47 Ω or	RN01470DP003
⚠	METAL OXIDE FILM RES. 1W J 47 Ω or	RN01470ZU001
⚠	METAL OXIDE FILM RES. 1W J 47 Ω	RN01470KE010
R 647 ⚠	METAL OXIDE FILM RES. 1W J 47 Ω or	RN01470DP003
⚠	METAL OXIDE FILM RES. 1W J 47 Ω or	RN01470ZU001
⚠	METAL OXIDE FILM RES. 1W J 47 Ω	RN01470KE010
R 648 ⚠	CARBON RES. 1/2W J 5.6 Ω or	RCX2JZQZ05R6
⚠	CARBON RES. 1/2W J 5.6 Ω or	RCX25R6KA013
⚠	CARBON RES. 1/2W J 5.6 Ω	RCX2JZPZ05R6
R 649 ⚠	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJB5Z0103
R 650 ⚠	CARBON RES. 1/4W J 22 Ω or	RCX4JATZ0220
⚠	CARBON RES. 1/6W J 22 Ω	RCX6JATZ0220
R 651	CARBON RES. 1/4W J 560 Ω or	RCX4JATZ0561
	CARBON RES. 1/6W J 560 Ω	RCX6JATZ0561
R 652 ⚠	CARBON RES. 1/4W J 560 Ω or	RCX4JATZ0561
⚠	CARBON RES. 1/6W J 560 Ω	RCX6JATZ0561
R 653	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 656 ⚠	METAL OXIDE FILM RES. 2W J 6.8 Ω or	RN026R8DP004
⚠	METAL OXIDE FILM RES. 2W J 6.8 Ω or	RN026R8ZU001
⚠	METAL OXIDE FILM RES. 2W J 6.8 Ω	RN026R8KE010
R 659	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 660	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJB5Z0101
R 664	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJB5Z0102
R 701	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJB5Z0750
R 702	PCB JUMPER D0.6-P5.0	JW5.0T
R 801 ⚠	FIXED METAL OXIDE FILM RES. 1W J 12 Ω or	RN01JZPZ0120
⚠	METAL OXIDE FILM RES. 1W J 12 Ω or	RN01120ZU001
⚠	METAL FILM RES.(STRAIGHT)1W J 12 Ω	RN01JZQZ0120
R 802 ⚠	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJB5Z0222
R 803 ⚠	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJB5Z0222
R 804	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJB5Z0222
R 805	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R 806	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 807	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 851	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJB5Z0223
R 852	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJB5Z0332
R 853	CARBON RES. 1/4W J 2.2M Ω or	RCX4JATZ0225
	CARBON RES. 1/6W J 2.2M Ω	RCX6JATZ0225
R 856	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R 857	CARBON RES. 1/4W J 3.3k Ω or	RCX4JATZ0332

Ref. No.	Description	Part No.
	CARBON RES. 1/6W J 3.3k Ω	RCX6JATZ0332
R 858	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJB5Z0682
R 859	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJB5Z0472
R 861	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R 862	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJB5Z0332
R 863	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJB5Z0103
R 864	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJB5Z0822
R 865	CHIP RES.(1608) 1/10W J 12k Ω	RRXAJB5Z0123
R 866	CHIP RES.(1608) 1/10W J 330k Ω	RRXAJB5Z0334
R 867	CHIP RES.(1608) 1/10W J 180 Ω	RRXAJB5Z0181
R 868	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJB5Z0223
R 869	CHIP RES.(1608) 1/10W J 910 Ω	RRXAJB5Z0911
R 871	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 872	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJB5Z0223
R 873	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R 874	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 875	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJB5Z0222
R 876	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJB5Z0222
R 877	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R 991	CARBON RES. 1/4W J 3.3k Ω or	RCX4JATZ0332
	CARBON RES. 1/6W J 3.3k Ω	RCX6JATZ0332
R 992	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R 993	CARBON RES. 1/4W J 82k Ω or	RCX4JATZ0823
	CARBON RES. 1/6W J 82k Ω	RCX6JATZ0823
R 994	CHIP RES.(1608) 1/10W J 1.2k Ω	RRXAJB5Z0122
SWITCHES		
SW 201	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW 202	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW 203	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW 204	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW 205	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW 206	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW 207	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW 208	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW 209	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW 210	TACT SWITCH SKQSAB or	SST0101AL038
	TACT SWITCH SKHHAM or	SST0101AL029
	TACT SWITCH KSM0612B	SST0101HH003
SW 211	PUSH SWITCH SPPB610301	SSP0102AL001
SW 212	ROTARY MODE SWITCH SSS-43MD or	SSR0106KB001
	ROTARY MODE SWITCH R8100212	SSR0106U3001
MISCELLANEOUS		
CF 301	4.5M FILTER LTH4.5MCB or	FBB455PLN001
	CERAMIC FILTER SFSRA4M50CF00-B0	FBB455PMR004
CF 302	4.5M TRAP XT4.5MB2 or	FBE455PLN001
	CERAMIC TRAP 4.5MHz	FBE455PMR003
JK 701	RCA JACK 1P AV-8.4-9Y	JXRL010RP010
JK 702	RCA JACK 1P AV-8.4-9W	JXRL010RP011
JK 801	EARPHONE JACK EX341BLB-1	JYSL030EXC01
RS 201	REMOCON RECEIVE UNIT PIC-37042SR or	USESJRSKK034
	REMOCON RECEIVE UNIT PIC-26042SR-2	USESJRSKK032
SF 001	SAW FILTER SX-8865 or	FBB456PMR003
SN 991	DEW SENSOR EYHS-10R4	PCZHUMZMS004
TB 3	HEAD SHIELD	0EM301417
TB 5	HOLDER, SENSOR(2)	0VM304011
TB 7	LED HOLDER	0EM406189
TB 21	BUSH, LED(F)	0VM409508
TU 001	TUNER B8095AP or	UTUNNTUSP018
	TUNER TEDH9-300A or	UTUNNTUAL025
⚠	TUNER UNIT B8055AR	UTUNNTUSP014
X 201	X'TAL 32kHz(10PPM) or	1811351
	X'TAL 32.768kHz or	FXB323LDS002
	X'TAL 32kHz(10PPM) or	1811350
	X'TAL 32.768kHz(20PPM) or	FXC323LCT001
	X'TAL 32.768kHz(20PPM)	FXC323LDS002
X 202	X'TAL HC-49/U 10.6MHz or	FXD106LLN001
	X'TAL AT49-10.6 or	FXD106LDS002
	X'TAL :10.6MHz S8562	FXD106LCT001
X 301	X'TAL 3.579545 MHz	FXD355LLN003
X 401	X'TAL 3.579545MHz or	FXC355LLN001
	X'TAL 3.579545MHz	1811389

Power Supply CBA (MPS)

Ref. No.	Description	Part No.
	Power Supply CBA (MPS) Consist of the following	0ESA04003
CAPACITORS		
C 1601⚠	METALLIZED FILM CAP. 0.1μF250V or	CT2E104MS037
⚠	FILM CAP.(MP) 0.1μF250V K or	CT2E104DC011
⚠	FILM CAP.(MP) 0.1μF250V M	CT2E104DC009
C 1603	CERAMIC CAP. F Z 0.01μF500V or	CCD2JZD0F103
	CERAMIC CAP. 0.01μFAC250V	CCD2EZA0F103
C 1604	CERAMIC CAP. F Z 0.01μF500V or	CCD2JZD0F103
	CERAMIC CAP. 0.01μFAC250V	CCD2EZA0F103
C 1605	CERAMIC CAP. F Z 0.01μF500V or	CCD2JZD0F103
	CERAMIC CAP. 0.01μFAC250V	CCD2EZA0F103
C 1606	CERAMIC CAP. F Z 0.01μF500V or	CCD2JZD0F103
	CERAMIC CAP. 0.01μFAC250V	CCD2EZA0F103
C 1607 ⚠	ELECTROLYTIC CAPACITOR 150μF200V or	CA2D151S6012
⚠	ALMINIUM ELECTROLYTIC CAP150μF200V	CA2D151NC088
C 1608	CERAMIC CAP. BN 680pF/2kV or	CCD3DKA0B681
	CERAMIC CAP. LB 680pF/2K	CA3D681KG004
C 1609	FILM CAP.(P) 0.047μF50V J or	CMA1JJS00473
	FILM CAP.(P) 0.047μF50V J or	CA1J473MS029
	FILM CAP.(P) 0.047μF50V J TV	CMB1JJS00473
C 1610	FILM CAP.(P) 0.033μF50V J or	CMA1JJS00333

Ref. No.	Description	Part No.
	FILM CAP.(P) 0.033µF50V J or	CA1J333MS029
	FILM CAP.(P) 0.033µF50V J TV	CMB1JJS00333
C 1611	CERAMIC CAP.(AX) B K 0.0018µF50V	CA1J182TU011
	If the C1616 is used 4700pF then follows below combination with C1617.	
	USED 4700PF MX T4100UZ	0EDM05260
C 1616⚠	SAFETY CAP. 4700pF/125V MX	CCF2BMA0F472
C 1617	PCB JUMPER P10.0MM	JW10.0
	If the C1616 is used 0.01UF then follows below combination with C1617.	
C 1616⚠	SAFETY CAP. F M 0.01µF250V or	CCG2EMP0F103
⚠	SAFETY CAP. TS 0.01µF250V or	CCE2EMA0F103
⚠	CERAMIC CAP. 0.01UF F CS	CCG2HMN0F103
C 1617⚠	SAFETY CAP. F M 0.01µF250V or	CCG2EMP0F103
⚠	SAFETY CAP. TS 0.01µF250V or	CCE2EMA0F103
⚠	CERAMIC CAP. 0.01UF F CS	CCG2HMN0F103
C 1620	ELECTROLYTIC CAP. 47µF160V M W/F or	CE2CMZNDL470
	ELECTROLYTIC CAP. 47µF160V M W/F	CE2CMZNTL470
C 1621	CERAMIC CAP. BN 470pF/2kV or	CCD3DKA0B471
	CERAMIC CAP. LB 470pF/2kV	CA3D471KG004
C 1622 ⚠	ELECTROLYTIC CAP. 470µF35V M or	CE1GMZPDL471
⚠	ELECTROLYTIC CAP. 470µF35V M	CE1GMZZTL471
C 1623 ⚠	ELECTROLYTIC CAP. 1000µF16V M or	CE1CMZPDL102
⚠	ELECTROLYTIC CAP. 1000µF16V M or	CE1CMZZTL102
⚠	ELECTROLYTIC CAP. 1000µF16V M	CE1CMZPTL102
C 1624 ⚠	ELECTROLYTIC CAP. 470µF16V M or	CE1CMASDL471
⚠	ELECTROLYTIC CAP. 470µF16V M	CE1CMASTL471
C 1625 ⚠	ELECTROLYTIC CAP. 1000µF16V M or	CE1CMZPDL102
⚠	ELECTROLYTIC CAP. 1000µF16V M or	CE1CMZZTL102
⚠	ELECTROLYTIC CAP. 1000µF16V M	CE1CMZPTL102
C 1626	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL1R0
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASDL010
	ELECTROLYTIC CAP. 1µF50V M or	CE1JMASTL010
	ELECTROLYTIC CAP. 1µF50V M	CE1JMASTL1R0
C 1627	CERAMIC CAP.(AX) B K 150pF/50V	CCA1JKT0B151
C 1629	FILM CAP.(P) 0.018µF50V J or	CMA1JJS00183
	FILM CAP.(P) 0.018µF50V J or	CA1J183MS029
	FILM CAP.(P) 0.018µF50V J TV	CMB1JJS00183
C 1630	ELECTROLYTIC CAP. 4.7µF25V M or	CE1EMASDL4R7
	ELECTROLYTIC CAP. 4.7µF25V M	CE1EMASTL4R7
C 1631	ELECTROLYTIC CAP. 100µF16V M or	CE1CMASDL101
	ELECTROLYTIC CAP. 100µF16V M	CE1CMASTL101
C 1632	ELECTROLYTIC CAP. 47µF16V M or	CE1CMASDL470
	ELECTROLYTIC CAP. 47µF16V M	CE1CMASTL470
C 1634	CERAMIC CAP. YV Z 0.01µF50V or	CCD1JZSYV103
	CERAMIC CAP. F Z 0.01µF50V	CCD1JZS0F103
C 1930	CERAMIC CAP.(AX) CH J 330pF/50V	CA1J331TU008
C 1931	ELECTROLYTIC CAP. 47µF25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47µF25V M	CE1EMASTL470
C 1932	CERAMIC CAP.(AX) B K 0.0047µF50V	CA1J472TU011
C 1933	ELECTROLYTIC CAP. 10µF16V M or	CE1CMASDL100
	ELECTROLYTIC CAP. 10µF16V M	CE1CMASTL100
C 1951	ELECTROLYTIC CAP. 1000µF25V M or	CE1EMZPDL102
	ELECTROLYTIC CAP. 1000µF25V M or	CE1EMZZTL102
	ELECTROLYTIC CAP. 1000µF25V M	CE1EMZPTL102
C 1952	ELECTROLYTIC CAP. 3300µF25V(PJ) or	CA1E332NC052
	ELECTROLYTIC CAP. 3300µF25V M(KC)	CA1E332EA041
C 1957	CERAMIC CAP. B K 560pF/1kV or	CCD3AKP0B561
	CERAMIC CAP. B K 560pF/1kV	CCD3AKD0B561
C 1958	CERAMIC CAP. B K 560pF/1kV or	CCD3AKP0B561
	CERAMIC CAP. B K 560pF/1kV	CCD3AKD0B561
C 1959	ELECTROLYTIC CAP. 100µF160V M or	CE2CMZPDL101
	ELECTROLYTIC CAP. 100µF160V M	CE2CMZZTL101
C 1960	CERAMIC CAP. B K 1500pF/1kV or	CCD3AKP0B152
	CERAMIC CAP. B K 1500pF/1kV	CCD3AKD0B152
C 1961	ELECTROLYTIC CAP. 220µF35V M or	CE1GMASDL221
	ELECTROLYTIC CAP. 220µF35V M or	CE1GMAUTL221
	ELECTROLYTIC CAP. 220µF35V M	CE1GMASTL221
C 1962	FILM CAP.(P) 0.0082µF50V J or	CMA1JJS00822
	FILM CAP.(P) 0.0082µF50V J or	CA1J822MS029
	FILM CAP.(P) 0.0082µF50V J TV	CMB1JJS00822
C 1963	CERAMIC CAP. YV Z 0.01µF50V or	CCD1JZSYV103
	CERAMIC CAP. F Z 0.01µF50V	CCD1JZS0F103
C 1964	ELECTROLYTIC CAP. 47µF16V M or	CE1CMASDL470
	ELECTROLYTIC CAP. 47µF16V M	CE1CMASTL470
C 1965	ELECTROLYTIC CAP. 10µF50V M or	CE1JMASDL100
	ELECTROLYTIC CAP. 10µF50V M	CE1JMASTL100
C 1966	CERAMIC CAP.(AX) B K 0.027µF50V	CA1J273TU011
C 1967	FILM CAP.(P) 0.01µF50V J or	CMA1JJS00103
	FILM CAP.(P) 0.01µF50V J or	CA1J103MS029
	FILM CAP.(P) 0.01µF50V J TV	CMB1JJS00103
C 1968	CERAMIC CAP.(AX) F Z 0.1µF50V	CCA1JZTFZ104
C 1969	ELECTROLYTIC CAP. 4.7µF25V M or	CE1EMASDL4R7
	ELECTROLYTIC CAP. 4.7µF25V M	CE1EMASTL4R7
CONNECTORS		
CN1601 ⚠	CONNECTOR BASE, 2P TV-50P-02-V1 or	J3TVC02TG001
⚠	CONNECTOR BASE, 2P RTB-1.5-2P	J3RTC02JG001
CN1604 ⚠	CONNECTOR BASE, 6P TUC-P06P-B1	J3TUA06TG001
DIODES		
D 1602	PCB JUMPER D0.6-P12.5	JW12.5T
D 1603 ⚠	DIODE 1N5397-B or	NDLZ001N5397
⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D 1604 ⚠	DIODE 1N5397-B or	NDLZ001N5397
⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D 1605 ⚠	DIODE 1N5397-B or	NDLZ001N5397
⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D 1606 ⚠	DIODE 1N5397-B or	NDLZ001N5397
⚠	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D 1608 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148 or	NDTZ001N4148
⚠	DIODE 1SS176TPA7	1SS176T
D 1609 ⚠	ZENER DIODE MTZJT-7733C	QDTC00MTZJ33
D 1610 ⚠	ZENER DIODE MTZJT-7720C	QDTC00MTZJ20
D 1611	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D 1613	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1621 ⚠	RECTIFIER DIODE 15DF4 or	QDQZ00015DF4
⚠	RECOVERY DIODE ERC18-04	QDZZ0ERC1804
D 1622 ⚠	DIODE FR154 or	NDLZ000FR154
⚠	FAST RECOVERY DIODE ERB44-02	QDPZ0ERB4402
D 1623 ⚠	DIODE 1ZC33	QDQZ0001ZC33
D 1624 ⚠	SCHOTTKY BARRIER DIODE 11EQS04 or	QD4Z011EQS04
⚠	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D 1625 ⚠	SCHOTTKY BARRIER DIODE 11EQS04 or	QD4Z011EQS04
⚠	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D 1626 ⚠	SCHOTTKY BARRIER DIODE 11EQS04 or	QD4Z011EQS04
⚠	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D 1627	DIODE FR104-B or	NDLZ000FR104

Ref. No.	Description	Part No.
	RECTIFIER DIODE 10ELS2 or	QDQZ0010ELS2
	RECTIFIER DIODE ERA22-02	QDPZ0ERA2202
D 1628	ZENER DIODE MTZJT-7713A	QDTA00MTZJ13
D 1629	ZENER DIODE MTZJT-772.2B	QDTB0MTZJ2R2
D 1630	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1631 ⚠	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D 1632 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148 or	NDTZ001N4148
⚠	DIODE 1SS176TPA7	1SS176T
D 1633	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1635	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1636	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1638	ZENER DIODE MTZJT-778.2B	QDTB0MTZJ8R2
D 1639	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1640	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1641	ZENER DIODE MTZJT-7736A	QDTA00MTZJ36
D 1644	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1930	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1952 ⚠	DIODE 1ZC18	QDQZ0001ZC18
D 1955 ⚠	FAST RECOVERY DIODE 20NFA60 or	QDAZ020NFA60
⚠	FAST RECOVERY DIODE ERD38-06	QDQZ0ERD3806
D 1956 ⚠	DIODE FR154 or	NDLZ000FR154
⚠	FAST RECOVERY DIODE ERB44-02	QDPZ0ERB4402
D 1957	SCHOTTKY BARRIER DIODE 11EQS04 or	QD4Z011EQS04
	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D 1958	SCHOTTKY BARRIER DIODE 11EQS04 or	QD4Z011EQS04
	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D 1959	SCHOTTKY BARRIER DIODE 11EQS04 or	QD4Z011EQS04
	SCHOTTKY BARRIER DIODE ERA81-004	QDPZERA81004
D 1960	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D 1961	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D 1962	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
D 1963	ZENER DIODE MTZJT-775.1A	QDTA0MTZJ5R1
D 1964	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
	SWITCHING DIODE 1N4148 or	NDTZ001N4148
	DIODE 1SS176TPA7	1SS176T
	ICS	
IC1601 ⚠	PHOTOCOUPLER LTV-817B-F or	NPEB0LTV817F
⚠	PHOTOCOUPLER LTV-817C-F or	NPEC0LTV817F
⚠	PHOTO COUPLER PC817X6	QPE600PC817X
IC1951 ⚠	IC:SWITCHING REGURATOR M62212FP	QSZBA0TMB004
	COILS	

Ref. No.	Description	Part No.
L 1601 ⚠	LINE FILTER SA-91213B or	LLBG00ZSA002
⚠	LINE FILTER TLF12UA302W1R0 or	LLBG00ZTU025
⚠	LINE FILTER 5.0MH 6Y075 or	LLBG00ZKT004
⚠	LINE FILTER UU10.5-A	LLBG00ZY2008
L 1602	PCB JUMPER D0.6-P5.0	JW5.0T
	TRANSISTORS	
Q 1601 ⚠	MOS FET 2SK2662	QF5Z02SK2662
Q 1602 ⚠	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
⚠	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q 1622 ⚠	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
⚠	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
⚠	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
⚠	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
⚠	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 1623	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 1624	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 1625 ⚠	TRANSISTOR 2SA950(O) or	Q2SA9500TPE2
⚠	TRANSISTOR 2SA950(Y)	Q2SA950YTPE2
Q 1626 ⚠	TRANSISTOR 2SC2120-O-TPE2 or	QQS002SC2120
⚠	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q 1930	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 1931	TRANSISTOR KTC3199(GR)	NQS10KTC3199
Q 1932	TRANSISTOR KTA1267(GR)	NQS10KTA1267
Q 1933 ⚠	MOS FET 2SK2232 or	QF5Z02SK2232
⚠	MOS FET FS30KMJ-06	QFZZ0FS30KMJ
Q 1951	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE

Ref. No.	Description	Part No.
Q 1952	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 1953 ⚠	TRANSISTOR 2SA1931	QQZZ02SA1931
Q 1954	TRANSISTOR KTA1267(GR) or	NQS10KTA1267
	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1318(T)-AANP or	2SA1318TZ
	TRANSISTOR 2SA1318(U)-AANP or	2SA1318UZ
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q 1955	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 1956	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
Q 1957	RES. BUILT-IN TRANSISTOR KRA103M or	NQSZ0KRA103M
	RES. BUILT-IN TRANSISTOR 2SA1346 or	2SA1346Z
	RES. BUILT-IN TRANSISTOR BN1F4M-T	QQSZ00BN1F4M
Q 1958	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
	RESISTORS	
R 1602⚠	CEMENT RES. 5W K 1.2 Ω or	RW051R2DP005
⚠	CEMENT RESISTOR 5W K 1.2 Ω or	RW051R2PG001
⚠	CEMENT RESISTOR SQZ05S1R2J	RW051R2Y4001
R 1603 ⚠	CARBON RES. 1/4W J 1.2M Ω or	RCX4JATZ0125
⚠	CARBON RES. 1/6W J 1.2M Ω	RCX6JATZ0125
R 1604	CARBON RES. 1/4W J 1.2M Ω or	RCX4JATZ0125
	CARBON RES. 1/6W J 1.2M Ω	RCX6JATZ0125
R 1605	PCB JUMPER D0.6-P5.0	JW5.0T
R 1606 ⚠	METAL OXIDE FILM RES. 2W J 0.39 Ω or	RN02R39DP004
⚠	METAL OXIDE FILM RES. 2W J 0.39 Ω or	RN02R39ZU001

Ref. No.	Description	Part No.
⚠	METAL OXIDE FILM RES. 2W J 0.39 Ω	RN02R39KE010
R 1607	PCB JUMPER D0.6-P5.0	JW5.0T
R 1608	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 1609	CARBON RES. 1/4W J 180 Ω or	RCX4JATZ0181
	CARBON RES. 1/6W J 180 Ω	RCX6JATZ0181
R 1610	CARBON RES. 1/4W J 180 Ω or	RCX4JATZ0181
	CARBON RES. 1/6W J 180 Ω	RCX6JATZ0181
R 1611	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 1613	CARBON RES. 1/4W J 150 Ω or	RCX4JATZ0151
	CARBON RES. 1/6W J 150 Ω	RCX6JATZ0151
R 1614	CARBON RES. 1/4W J 180k Ω or	RCX4JATZ0184
	CARBON RES. 1/6W J 180k Ω	RCX6JATZ0184
R 1624⚠	CEMENT RES. 5W J 3.3k Ω or	RW05332DP008
⚠	CEMENT RES. 5W K 3.3k Ω or	RW05332PG004
⚠	CEMENT RESISTOR RS-SQZ05332J	RW05332Y4004
R 1625	CARBON RES. 1/4W J 220 Ω or	RCX4JATZ0221
	CARBON RES. 1/6W J 220 Ω	RCX6JATZ0221
R 1626 ⚠	CARBON RES. 1/4W J 270 Ω or	RCX4JATZ0271
⚠	CARBON RES. 1/6W J 270 Ω	RCX6JATZ0271
R 1628 ⚠	CARBON RES. 1/4W J 2.2 Ω	RCX4JATZ02R2
R 1630 ⚠	CARBON RES. 1/4W J 560 Ω or	RCX4JATZ0561
⚠	CARBON RES. 1/6W J 560 Ω	RCX6JATZ0561
R 1631	CARBON RES. 1/4W J 33k Ω or	RCX4JATZ0333
	CARBON RES. 1/6W J 33k Ω	RCX6JATZ0333
R 1632	CARBON RES. 1/4W J 560 Ω or	RCX4JATZ0561
	CARBON RES. 1/6W J 560 Ω	RCX6JATZ0561
R 1633 ⚠	CARBON RES. 1/4W J 820 Ω or	RCX4JATZ0821
⚠	CARBON RES. 1/6W J 820 Ω	RCX6JATZ0821
R 1634 ⚠	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
⚠	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R 1635 ⚠	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
⚠	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R 1636 ⚠	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
⚠	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R 1637 ⚠	CARBON RES. 1/4W J 39k Ω or	RCX4JATZ0393
⚠	CARBON RES. 1/6W J 39k Ω	RCX6JATZ0393
R 1638 ⚠	CARBON RES. 1/4W J 12k Ω or	RCX4JATZ0123
⚠	CARBON RES. 1/6W J 12k Ω	RCX6JATZ0123
R 1639 ⚠	CARBON RES. 1/4W J 12k Ω or	RCX4JATZ0123
⚠	CARBON RES. 1/6W J 12k Ω	RCX6JATZ0123
R 1640 ⚠	CARBON RES. 1/4W J 12k Ω or	RCX4JATZ0123
⚠	CARBON RES. 1/6W J 12k Ω	RCX6JATZ0123
R 1641	CARBON RES. 1/4W J 220 Ω or	RCX4JATZ0221
	CARBON RES. 1/6W J 220 Ω	RCX6JATZ0221
R 1642	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R 1643	CARBON RES. 1/4W J 8.2k Ω or	RCX4JATZ0822
	CARBON RES. 1/6W J 8.2k Ω	RCX6JATZ0822
R 1644	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 1645	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R 1650 ⚠	METAL OXIDE FILM RES. 2W J 680 Ω or	RN02681DP004
⚠	METAL OXIDE FILM RES. 2W J 680 Ω or	RN02681ZU001
⚠	METAL OXIDE FILM RES. 2W J 680 Ω	RN02681KE010
R 1651	CARBON RES. 1/4W J 56k Ω or	RCX4JATZ0563
	CARBON RES. 1/6W J 56k Ω	RCX6JATZ0563
R 1652	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103

Ref. No.	Description	Part No.
R 1655 ⚠	METAL OXIDE FILM RES. 1W J 6.8 Ω or	RN016R8DP003
⚠	METAL OXIDE FILM RES. 1W J 6.8 Ω or	RN016R8ZU001
⚠	METAL OXIDE FILM RES. 1W J 6.8 Ω	RN016R8KE009
R 1656	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 1660 ⚠	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
⚠	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R 1661	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R 1930	CARBON RES. 1/4W J 100k Ω or	RCX4JATZ0104
	CARBON RES. 1/6W J 100k Ω	RCX6JATZ0104
R 1931 ⚠	CARBON RES. 1/4W J 18k Ω or	RCX4JATZ0183
⚠	CARBON RES. 1/6W J 18k Ω	RCX6JATZ0183
R 1932 ⚠	CARBON RES. 1/4W J 390 Ω or	RCX4JATZ0391
⚠	CARBON RES. 1/6W J 390 Ω	RCX6JATZ0391
R 1933 ⚠	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
⚠	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 1934	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 1935	CARBON RES. 1/4W J 390 Ω or	RCX4JATZ0391
	CARBON RES. 1/6W J 390 Ω	RCX6JATZ0391
R 1936	CARBON RES. 1/4W J 4.7k Ω or	RCX4JATZ0472
	CARBON RES. 1/6W J 4.7k Ω	RCX6JATZ0472
R 1937	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R 1938	CARBON RES. 1/4W J 18k Ω or	RCX4JATZ0183
	CARBON RES. 1/6W J 18k Ω	RCX6JATZ0183
R 1939	CARBON RES. 1/4W J 5.6 Ω or	RCX4JATZ05R6
	CARBON RES. 1/6W J 5.6 Ω	RCX6JATZ05R6
R 1940	CARBON RES. 1/4W J 680k Ω or	RCX4JATZ0684
	CARBON RES. 1/6W J 680k Ω	RCX6JATZ0684
R 1953 ⚠	CARBON RES. 1/4W J 39k Ω or	RCX4JATZ0393
⚠	CARBON RES. 1/6W J 39k Ω	RCX6JATZ0393
R 1954	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R 1955	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R 1956	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 1957 ⚠	METAL OXIDE FILM RES. 2W J 150 Ω or	RN02151DP004
⚠	METAL OXIDE FILM RES. 2W J 150 Ω or	RN02151ZU001
⚠	METAL OXIDE FILM RES. 2W J 150 Ω	RN02151KE010
R 1958 ⚠	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
⚠	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R 1959 ⚠	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
⚠	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R 1960	CARBON RES. 1/4W J 12k Ω or	RCX4JATZ0123
	CARBON RES. 1/6W J 12k Ω	RCX6JATZ0123
R 1961 ⚠	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
⚠	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 1962 ⚠	CARBON RES. 1/4W J 100 Ω or	RCX4JATZ0101
⚠	CARBON RES. 1/6W J 100 Ω	RCX6JATZ0101
R 1963	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152
R 1965	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222
R 1966	CARBON RES. 1/4W J 15k Ω or	RCX4JATZ0153
	CARBON RES. 1/6W J 15k Ω	RCX6JATZ0153
R 1967	CARBON RES. 1/4W J 1.8k Ω or	RCX4JATZ0182
	CARBON RES. 1/6W J 1.8k Ω	RCX6JATZ0182
R 1968	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102

Ref. No.	Description	Part No.
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 1969	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 1970	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 1971	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 1972	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 1973	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
R 1974⚠	CEMENT RES. 5W K 5.6 Ω or	RW055R6DP007
⚠	CEMENT RES. 5W K 5.6 Ω or	RW055R6PG004
⚠	CEMENT RESISTOR RS-SQZ055R6J	RW055R6Y4004
R 1976 ⚠	METAL OXIDE FILM RES. 1W J 33 Ω or	RN01330DP003
⚠	METAL OXIDE FILM RES. 1W J 33 Ω or	RN01330ZU001
⚠	METAL OXIDE FILM RES. 1W J 33 Ω	RN01330KE009
R 1977	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 1978	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R 1979	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
J 1603	CARBON RES. 1/4W J 220k Ω or	RCX4JATZ0224
	CARBON RES. 1/6W J 220k Ω	RCX6JATZ0224
	MISCELLANEOUS	
BC1601	PCB JUMPER D0.6-P5.0	JW5.0T
BC1602	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1603	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1620	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1621	PCB JUMPER D0.6-P5.0	JW5.0T
BC1951	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1952	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
BC1954	BEAD INDUCTORS FBR07HA121TB-00	LLBF00ZTU021
CL1951	LEAD WIRE 15P(7+8) 200MM	WX1T4100-003
F 1601⚠	FUSE 4A/125V 237 TYPE	PAGJ20CAG402
F 1951⚠	FUSE 6A/125V 237 TYPE	PAGJ20CAG602
FH1601	FUSE HOLDER MSF-015 or	XH01Z00LY001
⚠	FUSE HOLDER FH-V-03078	XH01Z00DK001
FH1602	FUSE HOLDER MSF-015 or	XH01Z00LY001
⚠	FUSE HOLDER FH-V-03078	XH01Z00DK001
FH1951	FUSE HOLDER MSF-015 or	XH01Z00LY001
⚠	FUSE HOLDER FH-V-03078	XH01Z00DK001
FH1952	FUSE HOLDER MSF-015 or	XH01Z00LY001
⚠	FUSE HOLDER FH-V-03078	XH01Z00DK001
JK1601⚠	AC INLET CCT9302-0201M or	JTDC0P0SR001
⚠	AC INLET HSC0555-010010 or	JTDC0P0HD001
⚠	AC INLET YKE31-0120	JTDC0P0JC001
JK1951 ⚠	DC JACK	1630382
PB 4	9V POW HEAT SINK PFF ASSEMBLY	0EM406108
PB 5	HEAT SINK(EP)	0EM406090
PB8	TOOTHED LOCK WASHER M3XD8XT:0.5	WBM3085
PL 2	B-TITE SCREW 3X8 BIND + CHROME or	GBMB3080
	B-TITE SCREW 3X8 BIND + CHROME	GBMB3080
PL 4	SCREW, B-TIGHT 3X10 WASHER HEAD	GCMB3100
PS1601 ⚠	THERMISTOR ZPB45BL7R0A	QNZZ45BL7R0A
SA1601 ⚠	SURGE ABSORBER JVR-07N471K or	NVQZVR07N471
⚠	SURGE ABSORBER CNR-10D471K	NVQZR10D471K

Ref. No.	Description	Part No.
SG1602 ⚠	GAP. FNR-G3.10D	FAZ000LD6005
T 1601 ⚠	SWITCHING TRANS KD-00704	LTT00CPKT068
T 1951 ⚠	SWITCHING TRANS KD-00705	LTT00ZPKT069
VR1620 ⚠	CARBON P.O.T. 10kΩ B or	VRCB103KA011
⚠	CARBON P.O.T. 10kΩ B	VRCB103HH014
VR1951 ⚠	CARBON P.O.T. 20kΩ B or	VRCB203KA011
⚠	CARBON P.O.T. 20kΩ B	VRCB203HH014

MUT CBA

Ref. No.	Description	Part No.
	MUT CBA Consists of the following:	0ESA04072
	H.V. CBA (MUT-A) CRT CBA (MUT-B)	---------- ----------

H.V. CBA

Ref. No.	Description	Part No.
	H.V. CBA (MUT-A) Consist of the following	----------
	CAPACITORS	
C 552	FILM CAP.(P) 0.047μF50V J or	CMA1JJS00473
	FILM CAP.(P) 0.047μF50V J or	CA1J473MS029
	FILM CAP.(P) 0.047μF50V J TV	CMB1JJS00473
C 553	ELECTROLYTIC CAP. 2.2μF50V M LL	CE1JMASLL2R2
C 555	ELECTROLYTIC CAP. 47μF35V M or	CE1GMASDL470
	ELECTROLYTIC CAP. 47μF35V M	CE1GMASTL470
C 556	ELECTROLYTIC CAP. 1000μF25V M or	CE1EMZPDL102
	ELECTROLYTIC CAP. 1000μF25V M or	CE1EMZZTL102
	ELECTROLYTIC CAP. 1000μF25V M	CE1EMZPTL102
C 558	CERAMIC CAP.(AX) B K 0.01μF50V	CA1J103TU011
C 559	ELECTROLYTIC CAP. 330μF35V M or	CE1GMASDL331
	ELECTROLYTIC CAP. 330μF35V M or	CE1GMAUTL331
	ELECTROLYTIC CAP. 330μF35V M	CE1GMASTL331
C 560	FILM CAP.(P) 0.015μF50V J or	CMA1JJS00153
	FILM CAP.(P) 0.015μF50V J or	CA1J153MS029
	FILM CAP.(P) 0.015μF50V J TV	CMB1JJS00153
C 572 ⚠	P.P. CAP 0.22μF200V J or	CA2D224VC012
⚠	PP CAP. 0.22μF200V J	CT2E224MS041
C 574	ELECTROLYTIC CAP. 4.7μF250V M or	CE2EMASDL4R7
	ELECTROLYTIC CAP. 4.7μF250V M	CE2EMASTL4R7
C 577	FILM CAP.(P) 0.01μF50V J or	CMA1JJS00103
	FILM CAP.(P) 0.01μF50V J or	CA1J103MS029
	FILM CAP.(P) 0.01μF50V J TV	CMB1JJS00103
C 578	ELECTROLYTIC CAP. 47μF35V M or	CE1GMASDL470
	ELECTROLYTIC CAP. 47μF35V M	CE1GMASTL470
C 580 ⚠	P.P.CAP 0.0068μF1.6kV J or	CA3C682VC011
⚠	PP CAP. 0.0068μF1.6kV J or	CT3C682MS039
⚠	METALLIZED FILM CAP. 0.0068μF1.6kV J or	CT3C682F7002
⚠	PP CAP. 0.0068μF1.6kV J	CBH3CJQ00682
C 581 ⚠	CERAMIC CAP. BN 820pF/2kV or	CCD3DKA0B821
⚠	CERAMIC CAP. LB 820pF/2kV	CA3D821KG004
C 584 ⚠	ELECTROLYTIC CAP. 1μF160V M or	CE2CMASDL010
⚠	ELECTROLYTIC CAP. 1μF160V M or	CE2CMASTL010
⚠	ELECTROLYTIC CAP. 1μF160V M	CE2CMASTL1R0
C 591 ⚠	ELECTROLYTIC CAP. 1μF50V M H7 or	CE1JMASSL010
⚠	ELECTROLYTIC CAP. 1μF50V M H7	CE1JMASSL1R0
C 592 ⚠	ELECTROLYTIC CAP. 47μF35V M or	CE1GMASDL470
⚠	ELECTROLYTIC CAP. 47μF35V M	CE1GMASTL470

Ref. No.	Description	Part No.
C 594	ELECTROLYTIC CAP. 10μF160V M	CE2CMASTL100
	CONNECTOR	
CN 571 ⚠	CONNECTOR BASE, 5P TV-50P-05-V3 or	J3TVC05TG002
⚠	CONNECTOR BASE, 5P RTB-1.5-5P	J3RTC05JG001
	DIODES	
D 552	DIODE 1N5397-B or	NDLZ001N5397
	RECTIFIER DIODE ERB12-06	QDQZ0ERB1206
D 571 ⚠	DIODE FR154 or	NDLZ000FR154
⚠	FAST RECOVERY DIODE ERB44-02	QDPZ0ERB4402
D 572 ⚠	DIODE FR104-B or	NDLZ000FR104
⚠	RECTIFIER DIODE 10ELS2 or	QDQZ0010ELS2
⚠	RECTIFIER DIODE ERA22-02	QDPZ0ERA2202
D 573	PCB JUMPER D0.6-P5.0	JW5.0T
D 584 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148 or	NDTZ001N4148
⚠	DIODE 1SS176TPA7	1SS176T
D 585	ZENER DIODE MTZJT-775.1B	QDTB0MTZJ5R1
D 591 ⚠	ZENER DIODE MTZJT-7736B	QDTB00MTZJ36
D 593 ⚠	PCB JUMPER D0.6-P5.0	JW5.0T
D 595	ZENER DIODE MTZJT-7720B	QDTB00MTZJ20
D 596 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148 or	NDTZ001N4148
⚠	DIODE 1SS176TPA7	1SS176T
D 597 ⚠	SWITCHING DIODE 1SS133(T-77) or	QDTZ001SS133
⚠	SWITCHING DIODE 1N4148 or	NDTZ001N4148
⚠	DIODE 1SS176TPA7	1SS176T
D 598 ⚠	DIODE FR104-B or	NDLZ000FR104
⚠	RECTIFIER DIODE 10ELS2 or	QDQZ0010ELS2
⚠	RECTIFIER DIODE ERA22-02	QDPZ0ERA2202
	IC	
IC 551 ⚠	VERTICAL OUTPUT IC AN5522 or	QSZBA0SMS002
⚠	VERTICAL OUTPUT IC LA78040A	QSBBA0SSY003
	COILS	
L 505	CHOKE COIL 47μH-K	LLBD00PKV007
L 572 ⚠	CHOKE COIL 47μH-K	LLBD00PKV007
	TRANSISNTORS	
Q 571 ⚠	TRANSISTOR 2SD2627LS-FEC-YB11	QQZZ02SD2627
Q 572	TRANSISTOR 2SC1627Y-TPE2	QQSY02SC1627
Q 591 ⚠	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
⚠	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
⚠	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
⚠	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
⚠	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
⚠	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
⚠	TRANSISTOR KTC3198GR TO-92 or	NQS40KTC3198
⚠	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
⚠	TRANSISTOR 2SC3331(U) or	QSC3331UNPAA
⚠	TRANSISTOR 2SC1815GR-TPE2	2SC1815GRTPE
	RESISTORS	
R 542 ⚠	PCB JUMPER D0.6-P12.5	JW12.5T
R 544 ⚠	CARBON RES. 1/4W J 10kΩ or	RCX4JATZ0103
⚠	CARBON RES. 1/6W J 10kΩ	RCX6JATZ0103
R 551	CARBON RES. 1/4W J 8.2kΩ or	RCX4JATZ0822
	CARBON RES. 1/6W J 8.2kΩ	RCX6JATZ0822
R 552 ⚠	CARBON RES. 1/4W J 1.2kΩ or	RCX4JATZ0122
⚠	CARBON RES. 1/6W J 1.2kΩ	RCX6JATZ0122
R 556	CARBON RES. 1/4W J 4.7 Ω or	RCX4JATZ04R7
	CARBON RES. 1/6W J 4.7 Ω	RCX6JATZ04R7
R 557	CARBON RES. 1/4W J 560 Ω or	RCX4JATZ0561

Ref. No.	Description	Part No.
	CARBON RES. 1/6W J 560 Ω	RCX6JATZ0561
R 558	CARBON RES. 1/4W J 10k Ω or	RCX4JATZ0103
	CARBON RES. 1/6W J 10k Ω	RCX6JATZ0103
R 559	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 560	CARBON RES. 1/4W J 3.9k Ω or	RCX4JATZ0392
	CARBON RES. 1/6W J 3.9k Ω	RCX6JATZ0392
R 561	CARBON RES. 1/4W J 3.9k Ω or	RCX4JATZ0392
	CARBON RES. 1/6W J 3.9k Ω	RCX6JATZ0392
R 562	CARBON RES. 1/4W J 5.6 Ω or	RCX4JATZ05R6
	CARBON RES. 1/6W J 5.6 Ω	RCX6JATZ05R6
R 563	CARBON RES. 1/4W J 5.6 Ω or	RCX4JATZ05R6
	CARBON RES. 1/6W J 5.6 Ω	RCX6JATZ05R6
R 565 ⚠	CARBON RES. 1/4W J 3.9 Ω or	RCX4JATZ03R9
⚠	CARBON RES. 1/6W J 3.9 Ω	RCX6JATZ03R9
R 566 ⚠	CARBON RES. 1/4W J 3.9 Ω or	RCX4JATZ03R9
⚠	CARBON RES. 1/6W J 3.9 Ω	RCX6JATZ03R9
R 568 ⚠	CARBON RES. 1/4W J 1.2k Ω or	RCX4JATZ0122
⚠	CARBON RES. 1/6W J 1.2k Ω	RCX6JATZ0122
R 570 ⚠	CARBON RES. 1/4W J 3.9 Ω or	RCX4JATZ03R9
⚠	CARBON RES. 1/6W J 3.9 Ω	RCX6JATZ03R9
R 573	CARBON RES. 1/4W J 470 Ω or	RCX4JATZ0471
	CARBON RES. 1/6W J 470 Ω	RCX6JATZ0471
R 574 ⚠	METAL OXIDE FILM RES. 2W J 1k Ω or	RN02102ZU001
⚠	METAL OXIDE FILM RES. 2W J 1k Ω or	RN02102DP004
⚠	METAL OXIDE FILM RES. 2W J 1k Ω	RN02102KE010
R 575 ⚠	METAL OXIDE FILM RES. 2W J 1k Ω or	RN02102ZU001
⚠	METAL OXIDE FILM RES. 2W J 1k Ω or	RN02102DP004
⚠	METAL OXIDE FILM RES. 2W J 1k Ω	RN02102KE010
R 576	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 577	CARBON RES. 1/4W J 560 Ω or	RCX4JATZ0561
	CARBON RES. 1/6W J 560 Ω	RCX6JATZ0561
R 578	PCB JUMPER D0.6-P5.0	JW5.0T
R 580 ⚠	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
⚠	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 581	PCB JUMPER D0.6-P5.0	JW5.0T
R 583 ⚠	METAL OXIDE FILM RES. 2W J 5.6 Ω or	RN025R6DP004
⚠	METAL OXIDE FILM RES. 2W J 5.6 Ω or	RN025R6ZU001
⚠	METAL OXIDE FILM RES. 2W J 5.6 Ω	RN025R6KE010
R 584 ⚠	CARBON RES. 1/4W J 1k Ω or	RCX4JATZ0102
⚠	CARBON RES. 1/6W J 1k Ω	RCX6JATZ0102
R 585	CARBON RES. 1/4W J 8.2k Ω or	RCX4JATZ0822
	CARBON RES. 1/6W J 8.2k Ω	RCX6JATZ0822
R 586	PCB JUMPER D0.6-P5.0	JW5.0T
R 587 ⚠	CARBON RES. 1/4W J 220k Ω or	RCX4JATZ0224
⚠	CARBON RES. 1/6W J 220k Ω	RCX6JATZ0224
R 588	CARBON RES. 1/4W J 150k Ω or	RCX4JATZ0154
	CARBON RES. 1/6W J 150k Ω	RCX6JATZ0154
R 589 ⚠	CARBON RES. 1/4W J 47 Ω or	RCX4JATZ0470
⚠	CARBON RES. 1/6W J 47 Ω	RCX6JATZ0470
R 591 ⚠	CARBON RES. 1/4W J 33k Ω or	RCX4JATZ0333
⚠	CARBON RES. 1/6W J 33k Ω	RCX6JATZ0333
R 592 ⚠	CARBON RES. 1/4W J 180k Ω or	RCX4JATZ0184
⚠	CARBON RES. 1/6W J 180k Ω	RCX6JATZ0184
R 593 ⚠	CARBON RES. 1/4W J 47k Ω or	RCX4JATZ0473
⚠	CARBON RES. 1/6W J 47k Ω	RCX6JATZ0473
R 594 ⚠	CARBON RES. 1/4W J 68k Ω or	RCX4JATZ0683
⚠	CARBON RES. 1/6W J 68k Ω	RCX6JATZ0683
R 596	CARBON RES. 1/4W J 2.2k Ω or	RCX4JATZ0222
	CARBON RES. 1/6W J 2.2k Ω	RCX6JATZ0222

Ref. No.	Description	Part No.
R 597 ⚠	CARBON RES. 1/4W J 6.8k Ω or	RCX4JATZ0682
⚠	CARBON RES. 1/6W J 6.8k Ω	RCX6JATZ0682
R 598 ⚠	CARBON RES. 1/4W J 22k Ω or	RCX4JATZ0223
⚠	CARBON RES. 1/6W J 22k Ω	RCX6JATZ0223
R 599 ⚠	CARBON RES. 1/4W J 5.6k Ω or	RCX4JATZ0562
⚠	CARBON RES. 1/6W J 5.6k Ω	RCX6JATZ0562
	MISCELLANEOUS	
BC 571	BEAD INDUCTORS FBA04HA600VB-00	LLBF00STU026
CL502A	LEAD WIRE 6P 200MM	WX1T4100-001
CL503A	LEAD WIRE 7P 310MM	WX1T4200-102
DB 2	13V H/V HEAT SINK(PDX)	0EM405399
DL 2	B-TITE SCREW 3X8 BIND + CHROME	GBMB3080
T 571 ⚠	FLYBACK TRANS BSC21-2627S	LTF00CPS2033
T 572	H0RIZONTAL DRIVE TRANS LP2-004	LTH00CPA5004

CRT CBA

Ref. No.	Description	Part No.
	CRT CBA (MUT-B) Consisit of the following	---------
	CAPACITORS	
C 501	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C 502	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C 503	CERAMIC CAP.(AX) B K 330pF/50V	CCA1JKT0B331
C 510	CERAMIC CAP. B K 1000pF/2kV or	CCD3DKP0B102
	CERAMIC CAP. B K 1000pF/2kV or	CA3D102MR030
	CERAMIC CAP. B K 1000pF/2kV	CCD3DKD0B102
	CONNECTOR	
CN 501	PIN CONNECTOR 005P-5100 or	JTEA001TG001
	CONNECTOR PIN, 1P LV or	1700576
	CONNECTOR PIN, 1P RT-01N-2.3A	1730688
	COIL	
L 501 ⚠	PCB JUMPER D0.6-P5.0	JW5.0T
	TRANSISTORS	
Q 501	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE or	QQSD02SC3468
	TRANSISTOR 2SC2271(D)-AEMP or	2SC2271DZ
	TRANSISTOR 2SC2271(E)-AE	QQSE02SC2271
Q 502	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE or	QQSD02SC3468
	TRANSISTOR 2SC2271(D)-AEMP or	2SC2271DZ
	TRANSISTOR 2SC2271(E)-AE	QQSE02SC2271
Q 503	TRANSISTOR 2SC2482 TPE6 or	QQSZ02SC2482
	TRANSISTOR 2SC3468(E)-AE or	QQSE02SC3468
	TRANSISTOR 2SC3468(D)-AE or	QQSD02SC3468
	TRANSISTOR 2SC2271(D)-AEMP or	2SC2271DZ
	TRANSISTOR 2SC2271(E)-AE	QQSE02SC2271
	RESISTORS	
R 501 ⚠	METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153ZU001
⚠	METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153DP003
⚠	METAL OXIDE FILM RES. 1W J 15k Ω	RN01153KE010
R 502 ⚠	METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153ZU001
⚠	METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153DP003
⚠	METAL OXIDE FILM RES. 1W J 15k Ω	RN01153KE010
R 503 ⚠	METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153ZU001
⚠	METAL OXIDE FILM RES. 1W J 15k Ω or	RN01153DP003
⚠	METAL OXIDE FILM RES. 1W J 15k Ω	RN01153KE010
R 504	CARBON RES. 1/4W J 1.5k Ω or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5k Ω	RCX6JATZ0152

Ref. No.	Description	Part No.
R 505	CARBON RES. 1/4W J 1.5kΩ or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5kΩ	RCX6JATZ0152
R 506	CARBON RES. 1/4W J 1.5kΩ or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5kΩ	RCX6JATZ0152
R 507	CARBON RES. 1/4W J 1.5kΩ or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5kΩ	RCX6JATZ0152
R 508	CARBON RES. 1/4W J 1.5kΩ or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5kΩ	RCX6JATZ0152
R 509	PCB JUMPER D0.6-P5.0	JW5.0T
R 510	PCB JUMPER D0.6-P5.0	JW5.0T
R 511	CARBON RES. 1/4W J 150kΩ or	RCX4JATZ0154
	CARBON RES. 1/6W J 150kΩ	RCX6JATZ0154
R 512	CARBON RES. 1/4W J 150kΩ or	RCX4JATZ0154
	CARBON RES. 1/6W J 150kΩ	RCX6JATZ0154
R 513	CARBON RES. 1/4W J 150kΩ or	RCX4JATZ0154
	CARBON RES. 1/6W J 150kΩ	RCX6JATZ0154
R 514	CARBON RES. 1/4W J 1.5kΩ or	RCX4JATZ0152
	CARBON RES. 1/6W J 1.5kΩ	RCX6JATZ0152
R 515	PCB JUMPER D0.6-P5.0	JW5.0T
R 516	CARBON RES. 1/4W J 15Ω or	RCX4JATZ0150
	CARBON RES. 1/6W J 15Ω	RCX6JATZ0150
R 517	CARBON RES. 1/4W J 680Ω or	RCX4JATZ0681
	CARBON RES. 1/6W J 680Ω	RCX6JATZ0681
R 518	CARBON RES. 1/4W J 15Ω or	RCX4JATZ0150
	CARBON RES. 1/6W J 15Ω	RCX6JATZ0150
R 519	CARBON RES. 1/4W J 680Ω or	RCX4JATZ0681
	CARBON RES. 1/6W J 680Ω	RCX6JATZ0681
R 520	CARBON RES. 1/4W J 15Ω or	RCX4JATZ0150
	CARBON RES. 1/6W J 15Ω	RCX6JATZ0150
R 521	CARBON RES. 1/4W J 680Ω or	RCX4JATZ0681
	CARBON RES. 1/6W J 680Ω	RCX6JATZ0681
	MISCELLANEOUS	
CL501A	LEAD WIRE 3P 230/BLA/AWG26#2468	WX1T4000-106
CL504A	LEAD WIRE 4P 250MM	WX1T4200-101
JK 501⚠	CRT SOCKET ISMS02S	JSCC220PK003

Junction A CBA

Ref. No.	Description	Part No.
	Junction A CBA Consist of the following	----------
CN 503	CONNECTOR, 7P TUC-P07X-B1	JCTUS07TG001

Junction B CBA

Ref. No.	Description	Part No.
	Junction B CBA Consist of the following	----------
CN 504	CONNECTOR 4P TUC-P04X-B1	JCTUS04TG001

Junction C CBA

Ref. No.	Description	Part No.
	Junction C CBA Consist of the following	----------
CN 502 ⚠	CONNECTOR, 6P TUC-P06X-B1	JCTUS06TG001

Junction D CBA

Ref. No.	Description	Part No.
	Junction D CBA Consist of the following	----------
CN1953 ⚠	CONNECTOR, 15P TUC-P15X-B1	JCTUS15TG001
⚠	CARBON P.O.T. 10kΩB	VRCB103HH014

DECK PARTS LIST

Ref No.	Description	Part No.
B 2	CYLINDER ASSEMBLY MK10 NTSC 2HD SQPB	N1228CYL
B 3	LOADING MOTOR ASSEMBLY MK10	0VSA11013
B 8	PULLEY ASSEMBLY MK10	0VSA11021
B 9	MOVING GUIDE S PREPARATION MK10	0VSA11002
B 10	MOVING GUIDE T PREPARATION MK10	0VSA11004
B 11	LOADING ARM T ASSEMBLY MK10	0VSA11001
B 12	LOADING ARM S ASSEMBLY MK10	0VSA11019
B 27	TENSION LEVER SUB ASSEMBLY MK10	0VSA11016
B 31	AC HEAD ASSEMBLY MK10	0VSA11014
B 35	TAPE GUIDE ASSEMBLY MK10	0VSA11007
B 37	CAPSTAN MOTOR 288/CCM002	N9650CML
B 52	CAP BELT MK10	0VM411138
B 73	FE HEAD(MK10) HVFHP0044A or	DHVEC01AL006
	FE HEAD ASSEMBLY MK10 or	N9741FEL
	FE HEAD(MK10) MH-131SF10 or	DHVEC01Z0004
	FE HEAD(MK9) MH-131SF9	DHVEC01Z0002
B 74	PRISM MK10	0VM202870
B 121	WORM MK10	0VM411094
B 122	WORM SHAFT MK10 or	0VM411650
	WORM SHAFT(C) MK10	0VM411651
B 126	PULLEY MK10	0VM411093
B 133	IDLER ASSEMBLY MK10	0VSA11017
B 148	TG CAP MK6	0VM407664C
B 300	C DRIVE LEVER R MK10	0VM304409
B 303	F DOOR OPENER A MK10	0VM304553
B 313	C.DRIVE SPRING MK10	0VM411111
B 319	CASSETTE SPRING MK9	0VM410571
B 354	SLIDER R MK10	0VM100913
B 355	SLIDER L MK10	0VM202867
B 401	VH CONNECTOR 4AJ MK10 JST	0VM304541
B 402	VH CONNECTOR 4BJ MK10 JST	0VM411464
B 403	ACH CONNECTOR AN(9P) MK9	0VM303991
B 404	ACH CONNECTOR 9B MK10	0VM411471
B 410	PINCH ARM(A) ASSEMBLY MK10	0VSA10995
B 411	PINCH SPRING MK10	0VM411092
B 414	M BRAKE S ASSEMBLY MK10	0VSA10999
B 416	M BRAKE T ASSEMBLY MK10	0VSA11000
B 417	TENSION SPG B MK10	0VM411819
B 425	LOCK LEVER SPRING MK10	0VM411110
B 426	KICK PULLEY MK10	0VM411095
B 472	SLIDER R ASSEMBLY MK10	0VSA11288
B 482	CASSETTE PLATE MK10	0VM202869
B 483	LOCK LEVER MK10	0VM411109
B 487	BAND BRAKE MK10	0VM304416
B 488	MODE LEVER MK10	0VM100918H
B 491	CAM GEAR(A) MK10	0VM100914
B 492	MODE GEAR MK10	0VM304402F
B 494	DOOR OPENER B MK10	0VM304398
B 499	T LEVER HOLDER MK10	0VM304419
B 501	WORM HOLDER MK10	0VM304397
B 502	CAM GEAR(B) MK10	0VM304403
B 505	P.S.W F 6*2.55*0.5	0VM402629A
B 507	REEL WASHER MK9 5*2.1*0.5	0VM410058
B 508	S BRAKE SPRING MK10	0VM411121
B 510	P.S.W F 6*2.55*0.5	0VM402629A
B 512	REEL WASHER MK9 5*2.1*0.5	0VM410058
B 513	PSCW(752605) MK10	0VM411516
B 514	SCREW RACK MK10	0VM411535
B 516	REEL WASHER MK9 5*2.1*0.5	0VM410058
B 518	P.S.W CUT 1.6X4.0X0.5T	0VM408485A
B 520	T BRAKE SPRING MK10	0VM411123
B 521	SOFT SPRING MK10	0VM411122
B 522	TG POST ASSEMBLY MK10	0VSA11012
B 523	FIRST POST ASSEMBLY MK9	0VSA10062
B 524	MOTOR PCB ASSEMBLY(M) MK10	0VSA11194
B 525	LDG BELT MK10	0VM411097
B 550	TAPE GUIDE ARM SPRING MK6	0VM407704E
B 551	FF ARM MK10	0VM304424
B 552	ADJUST SPRING MK10	0VM411697
B 555	RACK ASSEMBLY MK10	0VSA11009
B 556	STANDARD POST MK9	0VM410055C
B 557	MOTOR PULLEY U5	0VM403205A
B 558	LOADING MOTOR M31E-1 R14 7215	MMDZB12MM001
B 559	CLUTCH ASSEMBLY MK10	0VSA11018
B 560	KICK SPRING MK10	0VM411475
B 561	F DOOR SPRING MK10	0VM411430
B 562	C DRIVE LEVER L MK10	0VM304408
B 563	SLIDER SHAFT MK10	0VM411112
B 564	M GEAR MK10	0VM411136
B 565	SENSOR GEAR MK10	0VM411134
B 566	FF ARM HOLDER MK10	0VM304448
B 567	PINCH ARM(B) MK10	0VM304396
B 568	BT ARM MK10	0VM304417G
B 569	CAM HOLDER MK10	0VM304404
B 570	CAM RACK SPG MK10	0VM411102
B 571	P.S.W F 6*2.55*0.5	0VM402629A
B 572	P.S.W CUT 1.6X4.0X0.5T	0VM408485A
B 573	REEL S MK10	0VM202871
B 574	REEL T MK10	0VM202872
B 576	SLIDE HOLDER(S) MK10	0VM411728
B 577	SLIDE HOLDER(T) MK10	0VM411729
L 1051	SCREW, B-TIGHT M2.6X6 PAN HEAD+	GPMB9060
L 1053	SCREW, S-TIGHT M2.6X8 WASHER HEAD+	GCMS9080
L 1151	SCREW, SEMS M2.6X4 PAN +	CPM39040
L 1191	SCREW, S-TIGHT M2.6X8 WASHER HEAD+	GCMS9080
L 1341	SCREW, P-TIGHT M2.6X6 BIND HEAD+	GBMP9060
L 1406	AC HEAD SCREW MK9	0VM410964
L 1450	SCREW, SEMS M2.6X5 PAN HEAD+	CPM39050
L 1460	SCREW M2.6X6 PAN HEAD +	SPM39060
L 1461	SCREW, P-TIGHT M2.6X6 WASHER HEAD+	GCMP9060
L 1463	SCREW, S-TIGHT M2.6X4 BIND HEAD+	GBMS9040
L 1466	SCREW, S-TIGHT M2.6X6 BIND HEAD+	GBMS9060
L 1469	SCREW, S-TIGHT M2.6X6 PAN HEAD +	GPMS9060
L 1471	SCREW, S-TIGHT M2.6X6 BIND HEAD+	GBMS9060
L 1482	SCREW, B-TIGHT M2.3X4 BIND HEAD+	GBMBY040
L 1483	SCREW, P-TIGHT M2.6X8 BIND HEAD+ or	GBMP9080
	SCREW PRISM MK7	0VM409038

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